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ART. I. *Reflections on Diseases of Irritation.* By JAMES FOUNTAIN, M. D. Fellow of the College of Physicians and Surgeons of the University of the State of New-York.

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Nervous Headach.

IT has been observed that not only the nerves, but the brain occasionally admitted of a perverted action, submitting to the laws of nervous irritative diseases in general. This is exemplified in what is called nervous headach. Periodical and nervous headach are often used synonymously; but such looseness in medical language is very objectionable, inasmuch as it leads to the very worst treatment.

Many people, especially sanguineous and delicate females with flushed countenances, are occasionally affected in the afternoon with pain in the head, which increases until they have slept a sufficient length of time, when they awake free from distress, and in good health. This continues uninterrupted until mid-day, when the same action commences, and runs the same course. This affection, which is truly periodical, arises unquestionably from an increased action of the capillaries of the brain, and consequently would be aggravated by stimuli or irritants.

The nervous, or periodical headach of authors, however, is quite the reverse of this. It affects the feeble and nervous with emaciated habits and pale countenances. It commen-

ces early in the morning, sometimes a few minutes after awaking, and continues until just after mid-day, when it begins to decline, and in the evening ceases entirely. It arises, most probably, from a perturbed state of the faculties of the brain, favoured by debility both cerebral and vascular. That pure debility or atony will not produce this affection, is evident from the fact, that excessive hæmorrhages and other directly depletory means, how far soever they may be carried, will not of necessity induce the disease.

Cure. The indication of cure in nervous irritative diseases in general, that of elevating vascular action, will not always overcome the morbid process constituting this disease; although it frequently will, especially when supported by tonics, effect that end. This affection more readily admits of relief from counter-irritants, inducing a new action in the parts concerned capable of maintaining its ascendency. For this purpose no article possesses half the efficacy of *arsenic*. This herculean agent, administered in doses of one fourth or one half a grain twice in twenty four hours, with the interposition of a laxative every 4th or 5th day, will seldom, I may venture to say almost never, disappoint the practitioner.

Case. A. Smith, Esq. æt. 23, of a spare habit and nervous temperament, had been affected 18 months with the nervous headach. The pain commenced often before he awoke in the morning, and continued severe until evening, when he experienced a small respite. His appetite was bad, his pulse 130, and his spirits depressed. He had gone through the ordinary routine of medication: had been bled, blistered, and purged: had taken tonics, antispasmodics, &c. and when I first saw him, he despaired of obtaining relief from any quarter. I gave him pills containing each one quarter of a grain of arsenic, ordering one morning and evening. Finding partial relief, he unadvisedly doubled the number, and took occasionally a laxative; and at the expiration of 20 days, found himself free from his malady. This was thirteen years ago, since which he has enjoyed comparatively good health; neither dropsy nor any ill consequences resulting.

Tic Doloureux.

The pathology of no disease is perhaps more unsettled than that of tic doloureux. It would be foreign to my plan to encumber this paper with the jarring pathological views proffered by different writers. It has been considered local and general, primary and symptomatic; a disease of congestion, inflammation, and debility. Dr. Hosack observes that it is not confined to the nerves of the face, "but that it is frequently connected with the general condition of the system," and this, he continues, is not at variance with Dr. Parry's opinion of the proximate cause of this disease, which consists in "an inflammatory affection of the neurilema, or membranous envelope of the nerve affected;" and adds, that his principles "are no less in accordance with the views of this disease by Dr. Armstrong, who expressly states that "tic doloureux appears to me to be a complaint of the *brain itself*." This discrepance of opinion amongst authors is proof positive of the want of just pathological views; but still from what I have witnessed, together with the most successful plan of treatment, I cannot refrain from expressing a belief that the foundation of tic doloureux is laid in the derangement of the digestive organs, more especially of the stomach and duodenum.

Such is the construction of our animated machine, that the nerves, the digestive organs, and the blood vessels, the three grand pillars of our mysterious fabric, are reciprocally dependent on each other; therefore the functions of neither can be materially deranged without interrupting the harmony of the whole. Opposite extremes often beget the same end; so violent nervous impressions, whether exciting or depressing, impede digestion by deranging the condition of the nerves concerned in that process, and defective chylification is the direct consequence. "This, (says Dr. Johnson,) strikes at the root of health and strength, by depriving the whole system of its fundamental support, and debility, the parent of irritability, is the result." The same effects may arise from any cause whatever, which diverts either directly or indirectly the regular process of digestion; thus a foundation is laid for all that host of protean diseases which haunt those possessed of morbid sensibi-

lity. The author just alluded to observes, "that the causes of derangements in the nervous system may be branched into three classes," the whole weight of whose influence falls proximately on the digestive organs. "The lady whose case I have related," says Mr. Abernethy, "died about four years after of a disorder of the digestive organs, to which she was habitually subject." That a diseased state of the stomach should produce pain in a particular nerve of the face in a system predisposed, is no more unaccountable than that the same state of the liver should produce a pain in the shoulder, arms, fingers, &c.

The pain in tic douloureux is, primarily, purely irritative and symptomatic; but, as frequently observed, irritation finally begets inflammation, the nervous sometimes developes vascular action of the part. "In the commencement," says Dr. Armstrong, "this disease merely consists of disordered action; but when it has continued a long time, that disordered action may have produced derangement of structure." Hence it is rendered considerably certain that in tic douloureux two distinct and opposite conditions do obtain, which accounts for the contradictory mode of treatment successfully pursued by different authors.

Cure. It is an established maxim in therapia, first to remove the exciting causes when they exist and continue to operate. As all general rules have exceptions, there is often one in this instance; for the derangement of the digestive organs, the exciting cause, cannot be removed when the inflammatory condition of the nerve has been developed, until that state is subdued, as the means calculated to overcome the former would aggravate the latter. Although there be a congestion in the brain at the origin of the nerve, according to Dr. Armstrong, or an inflammation of the neurilema, according to Dr. Parry, it is not often cognizable to any of the senses. We are, therefore, wanting in criteria whereby to judge of the stage; and the only substitute must be the general principle already suggested, viz. the duration and intensity of the irritation. If the case have been severe and of long standing, we may reasonably presume "a change of structure" has

been induced, and our measures must be suited to the removal of that condition; and for this purpose Armstrong, Parry, and others, bled and purged; but, in my humble opinion, no means are so well calculated to this end as mild emetics.

The extreme remoteness of the affection from the centre of circulation, must render blood-letting either nugatory or utterly abortive, and purging promises but little more; but emetics give a general impulse to every living fibre, break old associated habits, give mobility new laws, increasing the action of the veins and lymphatics, and yet diminishing that of the arteries. They indeed seem to debilitate, but the debility they induce approaches the nature of a languor, readily admitting relief from the action of tonics to whose remediate powers they give a degree of congeniality and facility of operation otherwise unattainable. They should, therefore, not only precede a tonic course, but should be frequently interposed during its continuance.

Having cleared the way by an emetic, our next step is to restore the action of the digestive organs, and through their instrumentality, the vigour of the whole system. This object is most effectually accomplished by chalybeates, especially the carbonas ferri, employed so successfully by Drs. Hutchinson, Richmond, and Carter, as reported in the London Journals. This article, so celebrated, admits however of auxiliary means: a careful attention to diet, bitter infusions, exercise in the open air, change of scene, in short, every measure calculated to invigorate the digestive powers.

The irritation of the nerve would unquestionably admit of relief on the principle of removing irritative nervous diseases in general, were it not unsafe to induce so powerful an action in the part, added to the presence, in the system, of the exciting cause. Even though the removal of this were neglected, André, according to Dr. Good, "succeeded in removing it permanently" by the powerful action of a caustic, even after the scalpel had failed. But it is certainly more feasible to weaken or break up the morbid process in the nerve, and then to maintain a permanent natural action by tonics and chalybeates, which is the direct tendency of the means detailed.

Case. An unmarried lady, æt. 28, of a shattered habit and nervous temperament, had been affected six months with a severe tic doloureux. Viewing the case as purely nervous, I took Trotter for a guide. I prescribed an emet. of 25 grs. of ipecac. and followed it up closely by carb. ferri, and an infusion of quassia. Partial relief was obtained, but she soon relapsed The emetic was repeated, and the same tonic course pursued, with exercise on horseback, which improved her health, and in proportion mitigated her complaint. She had many reverses, but was finally totally relieved by the alternate use of emetics and the tonic plan. Viewing the carb. ferri as the principal remedy, I gave it freely; and I may add, her health has ever since been good, for a nervous female in a state of celibacy.

Rheumatism.

Every practitioner of much experience must have witnessed cases termed rheumatic, especially of the back, shoulders, breast, and superior extremities, and even of most of the larger joints, which were uniformly unrelieved or aggravated either by a tonic or depletory course. A very striking case of the kind is mentioned by Dr. Phillip. By a little attention the subjects of these rheumatic affections will be found to labour under some hepatic disorder. Since no organic derangement is manifest in the part, these pains must be nervous irritations, and symptomatic of the internal affection. Why a diseased liver should produce a pain in the shoulder, has never been satisfactorily answered, Dr. Good's explanation notwithstanding. But such is the fact; and not in the shoulders only, but in almost every joint of the body. I know several people labouring under slight hepatic derangements, who, for years, have seldom been free from these pains wandering from one joint to another. Some enjoy a degree of health, whilst others are feverish. Like subacute hepatitis, these pseudo-rheumatic pains may exist an indefinite length of time without inducing organic derangement. But when from any cause they become aggravated, a real inflammation is developed by a law so frequently adverted to; and from an effect they become a cause. Instead of an irritative sympto-

matic, we have now an inflammatory affection to encounter, frequently involving in the excitement the whole vascular system, producing a symptomatic fever. The former pains are supplanted, and a new feature is given to the primary disorder of the joints; and, on the principle of counter-irritation, the original hepatic disease is sometimes wholly removed. Now it must be evident, that this complication, from beginning to end, must be totally different from ordinary rheumatism from cold. This form is quite common; and the ill success of the means ordinarily employed has contributed, not a little, to strengthen the prejudices of people against the use of medicines in that disease.

Cure. The means of cure in hepatic rheumatism may be divided into two classes—those required during the irritative, and those during the inflammatory stage. During the irritative stage, it is frequently sufficient to remove the exciting cause—the hepatic derangement. For this purpose mercurials and opening medicines are indispensable. Four or five grains of blue pill, with the same quantity of rhubarb, may be administered twice every day, and as much sulph. mag. and infusion of senna as will produce two motions, may be given every second morning. After using these resolvents for six, eight, or ten days, an infusion of quassia or colombo may be taken every morning to give tone to the stomach and bowels, and through them to the whole system; and, at the same time, to raise the action of the vessels of the painful parts, they may be embrocated with some stimulating liniment.

Dr. Phillip observes, "I have already had occasion to allude to the case of a gentleman who laboured under severe pains of the legs, which had been treated unsuccessfully for two years. A grain of blue pill, combined with stomachic and opening medicines, was given three or four times a day, and the pains with the other symptoms disappeared in a few weeks."

Deviating a little from my plan, I must beg to observe, that during the second or inflammatory stage we have a different and more difficult state to manage. We have hepatic derangement, universal debility, and local inflammation to en-

counter. The local inflammation having a tendency to relieve the internal affection, vigorous depletory measures cannot, according to my experience, be adopted with safety to the system. In this stage of hepatic rheumatism moderate venesection may be resorted to, and the excitement kept down by a combination of submur. hyd. one part, pulvis antimon. two parts, and nitras potass. four parts, given in doses of from eight to twelve grains every three hours, from mid-day till 9 in the evening, followed next morning by an operative dose of sulph. mag. and infusion of senna. "During the early stage of the disease," observes Dr. Moore in his Hospital Report, "the bowels are kept freely purged by giving, each night, eight or ten grains of calomel, and in the morning following, salts with senna." Dr. Moore's cases were undoubtedly hepatic rheumatism; the success of his cathartic plan cannot be accounted for on any other principle. Enveloping the whole body in flannel, and the joints doubly so, should never be neglected. It is a particular injunction in every stage of hepatic rheumatism.

Hydrocephalus Internus.

Since the medical world has been favoured with the valuable productions of Drs. Cheyne and Yeates, the following may, perhaps, be viewed in the light of an obtrusion; but the almost uniform mortality of confirmed hydrocephalus must plead my apology.

From the loose manner in which children are usually fed, and the keenness of their appetites, it is not surprising that they should eat too much, and that food of an improper quality. Hence by far the majority of the diseases of children are connected with a disordered state of their digestive apparatus, the delicacy of whose structure, at this stage of life, is extremely exquisite. The sympathy between these parts and the brain is so great and well known, that to name it is sufficient. Dr. Phillip observes, "of all the sympathetic affections of distant parts in indigestion, none are so frequent as those of the head." The delicate structure and peculiar tenderness of the encephalon in infancy is eminently favourable to the evolution of any morbid process; therefore, every de-

rangement of the digestive organs is immediately announced, in children, by cerebral irritation or pain in the head. Although these pains are primarily nervous and symptomatic only, if they are of frequent occurrence or long duration, they will induce an inflammatory action, just sufficient to terminate in effusion, and thus constitute a real hydrocephalus internus. It matters little what the cause of the deranged state of the digestive organs is, whether vitiated bile, or any other acrid secretion, corrupt living, colluvies or worms, the effect is the same, a source of irritation to the brain, which must continue so long as the causes continue to operate. Hence it is a matter of the greatest moment to children that pains in the head, particularly if accompanied by costiveness and frequent vomiting, should be promptly attended to; for, according to the experience of Dr. Phillip, five cases of six of hydrocephalus internus arise from this source.

Cure. Hydrocephalus internus consists of three stages; the irritative, the inflammatory, and the effusive; therefore, the indications of cure must vary according to the progress of the complaint. It is to the first stage I am properly limited, but the importance of the subject will justify any deviation in form.

In every stage of the complaint, the first step to be taken is the removal of the exciting cause; and this being generally some abdominal irritation, cathartics stand foremost on the catalogue of means. In the early part of the first stage they are frequently rejected, and if not, they commonly fail to operate. No danger being apprehended, they are often neglected many hours or days; at length they are repeated in the ordinary dose, and again fail. Meanwhile the irritation progresses, and before any alarm is created, the fate of the little patient is sealed. Hence it becomes necessary, on the failure of the first cathartic, to double our diligence, and produce a decided effect by sub. mur. hyd. scammony, or oil of croton. This last article is particularly useful, according to the reports of Dr. J. S. Rogers of New-York. And Dr. Phillip observes, "if this mimic disease be kept up for a certain length of time, it will be converted into a real disease, let

the cause which produced it be what it may." Excessive pain or irritation in any part will finally produce organic derangement, with all its consequences; and the action once evolved, it matters not whether it proceeds from the irritation of a disordered viscus, or a concussion of the brain itself.

After removing the exciting cause, our next step is to overcome the cerebral affection. If it have proceeded to inflammation, blood-letting holds the first rank, and next to it purging and blistering. The place usually designated for blistering is the scalp; but against this I must enter my solemn protest. Applied to this part, I have never known them productive of any benefit, but on the contrary of much injury. Nor is this surprising, when we consider the proximity of the diseased process to the scalp, which in severe cases is always hot, and actually partaking of the diseased process from within. Hence, raising an action in that part must necessarily aggravate the disease. The very reverse of this, cold applications, are evidently required. I once attended a child who was continually rolling its head on the pillow, and uttering incessant screams. Placing a hard pillow under the head, I kept it constantly wet with cold water, and in less than two hours the little patient slept calmly. And by means of cathartics and a blister to the spine, a recovery was effected. This part, the spine, is the proper place for vesication, and on it blisters may be applied with the most decided success, from the head to the sacrum. In adults for cerebral affections, in typhus with delirium, &c. I usually apply them from eighteen to twenty-four inches in length.

Second.—*Diseases of Organic Irritation.*

Erysipelas.

Having drawn up an account of an epidemic erysipelas for the last volume of this Journal, I should have omitted this irritative disease, did not two circumstances demand its reconsideration. The first is, sporadic cases frequently differ materially from such as are epidemic. In that which I witnessed, emetics, sudorifics, laxatives, and spirits of turpentine constituted the principal means of cure. I have since been convinced that emetics and turpentine were nearly all that

were required. But in sporadic cases, venesection and other antiphlogistics are more frequently admissible, and even in some cases indispensable.

The second reason for again introducing this disease, is the very incomplete and erroneous manner in which the subject has been treated in a celebrated work in the hands of most practitioners, I allude to the Study of Medicine by Dr. Good. He considers the disease as purely asthenic. Venesection, he concludes, "has been recommended upon mistaken principles.' Like many other fire-side practitioners, he seems strangely to believe that where venesection is inadmissible, bark is indicated. "We should first cool the body, he observes, by gentle laxatives, and *instantly* have recourse to the tonic plan." On this short sentence turns his whole scheme of treatment, and yet it is so vague as to justify any blunder either in the cooling or tonic plans. In adynamic fevers, laxatives do not always cool; the patient then may be purged beyond the hope of recovery, or *instantly* stimulated into a condition equally deplorable.

The fact is, there are three distinct grades of this disease, requiring corresponding modifications of treatment. The first grade is that attended by an exalted; the second, a medium; and the third, a diminished vitality. As a general rule it may be observed, that the first is concomitant on youth, the second on middle age, and the third on advanced life, corresponding to Dr. Cooper's "acute, œdematous, and gangrenous varieties."

Cure. It must be evident that these grades require different modifications of treatment. I shall therefore consider them separately in the order in which they stand.

First grade, or acute of Dr. Cooper. This grade occurring in youth, and in the sanguineous who are young, is characterised by a brighter redness, together with a more elevated vascular action. A moderate venesection, an emetic, a laxative, and the local application of lead water, are generally sufficient to reduce the excess of action; when the natural effort of the system will soon subdue or regulate the irritative movement.

Second grade. This variety constituted the epidemic alluded to, and is that of most frequent occurrence. It is observed in the middle aged and in the choleric. It seldom or never,

except in sporadic cases, requires venesection; but to break up the morbid concatenation, an emetic is indispensable. This seldom fails of producing a remission of the erysipelatous action, and to secure the advantage thus obtained, some sudorific should follow immediately, and a uniform sweat be kept up eighteen or twenty-four hours. If the tongue and skin be moist, spirits of turpentine may be administered in doses of 20 or 30 drops, every one, two, or three hours, as the urgency may be. Bark in this variety is generally injurious, producing a dry tongue and skin, heat, thirst, &c. when the turpentine will not.

Note. Since the above was written, the following case has occurred in my practice. J. Fox, æt. 47, of a full and remarkable corpulent habit, was affected with universal anasarca; his feet and legs were enormously swelled, as much so as the skin would admit. They were covered by vesicles of various sizes, with an erysipelatous redness, accompanied by a burning, smarting, and itching sensation. As the vesicles ruptured, they left purple, livid denudations, from which the anasarcous fluid was continually oozing in large quantity. Besides his internal remedies, I applied a saturnine wash at first, and then a similar liniment. Three days after, finding no amendment, I tried the turpentine liniment. Forty-eight hours after the first application, the redness had mostly disappeared, and the vesicles and denuded surfaces became covered by thick brown scabs, and ceased discharging. In four days these peeled off, leaving the skin smooth and healthy.

Erythema a veneno.

To city practitioners the erythema, arising from the application of vegetable poisons, presents no inducements for investigation; but to country physicians, though a trivial disease in general, it is often more perplexing than the most formidable inflammation. Indeed, a practitioner's character is not unfrequently rated by his management of some such inconsiderable disease, which, perhaps, scarcely ever occupied his attention.

The most common poisons are the three species of the *Rhus*, the R. toxicodendron, R. vernix, and R. radicans.—

Many people are so susceptible to their action, as to be affected merely by sitting by a fire in which they are burning; or by the smoke emanating from their combustion. The leading symptoms are, diffused redness and swelling, intolerable itching and burning, succeeded by vesication, terminating occasionally in mortification and death. Sometimes the whole system is sympathetically affected, manifested by a quick pulse, white or yellow tongue, with a copious secretion of bile, nausea, and vomiting. The affection being purely erysipelatous or irritative, never terminates in suppuration.

Cure. Whoever undertakes to manage this disease, either by stimulants or sedatives exclusively, will occasionally be compelled to regret his want of discrimination. "Cooling laxatives and saturnine lotions," are the remedies of authors, and they sometimes succeed, but more frequently they fail, and the management is surrendered to the nurses. The disease admits of the same division into grades as erysipelas, according to the age, temperament, habits, &c. of the subject; and requires the same varied treatment. Smart purging should be sedulously avoided. I once visited a lady whose erythema had disappeared under the joint operation of a cathartic and lead-water; but she was harassed by an incessant nausea and vomiting; with great prostration of strength, quick pulse, interrupted respiration, and cold extremities. A table spoonful of camphorated spirits every half hour, in an infusion of rad. serpentaria, soon brought out an erythema, when every other symptom vanished. Mild emetics, laxatives, and camphorated sudorifics will soon break up the perturbed action, after which the turpentine liniment will almost infallibly establish a new irritation in the part, and thus overcome the morbid process.

Case. A lad, æt. 13, had been poisoned five days: his face was tumid, red, and blistered; the blisters on his forehead were livid and nearly black, with fiery margins and great heat. No other preparatory treatment being necessary, the turpentine liniment was applied immediately, and in twelve hours the affection was completely subdued, the scabs only remaining; these peeled off in a few days, leaving the skin smooth and healthy.

Purpura Urticans.

This disease, though comparatively unimportant, is much less so than the last. The affection has no vernacular appellation; and as practitioners trouble themselves very little about either its name or nature, it is allowed to pass unobserved; and the patient is doomed to linger away restless nights and weary days, until relieved by chance, or the unassisted efforts of the system. Though seldom noticed, it is a disease of frequent occurrence, at least in my practice, inasmuch as two or three cases occur every year.

Notwithstanding this affection is not classed with erysipelas by nosologists, yet from the circumstance of its being irremediable, either by stimulation or depletion, together with the nature of the plan of treatment I have found most successful, I am induced to believe the morbid process is the true "erysipelatous inflammation" of Hunter, or real organic irritative action. Corroborative of this opinion, I would beg to observe, that Plumbe, a late celebrated dermologist, has located the affection in his second section on "diseases dependent on debilitated and *deranged* states of the system."

Symptoms. It usually affects one or both legs, beginning just above the ankles with small, red, rounded elevations of the skin, which soon subside to the natural level, leaving purple spots of irregular diffusion. In the morning they are livid and flat; but in the afternoon they are somewhat elevated and extremely sore; and the whole leg becomes somewhat tumid, painful, and of a venous red hue. The system is sometimes affected with feverish symptoms, lassitude, loss of appetite, and these are frequently considerable. "The duration of the complaint," observes Willan, "is from three to five weeks;" and I may venture to say, as many days are quite sufficient for its removal.

Cure. This has formerly been with me one of the most vexatious little complaints with which I had to contend. I bled, purged, used saturnine lotions, stimulated and used spiritous washes, but still the disease yielded only to time and patience. At length, a neighbouring quack informed a female patient of mine, that he could cure her in twelve hours. She consented, and he fulfilled his promise. He fomented

her legs an hour or more with a strong decoction of the *polygonum persicaria*, vulgarly called arse-smart, and bound a large quantity on the affected parts. On removing it, twelve hours after, not a vestige of the complaint was to be seen. It was however only a lucky hit; for she had taken an emetic and sudorific draught, which so enfeebled the morbid process, that the acrimony of the plant acted as a powerful counter-irritant, and by instituting a new action in the part, overcame her complaint. Since that time I have uniformly succeeded by an emetic or two and a sudorific, following them immediately by the application of the turpentine liniment.

Intermittent Fever.

Notwithstanding the pathology of intermittent fever continues to be enveloped in mystery, its treatment is presumed to be so universally established, that any attempt at improvement will, perhaps, be deemed wholly superfluous, and consequently unfavourably received.

That this disease is of miasmatic origin has long been a settled point, but the composition of these malaria is yet amongst the *arcana* of nature. Various conjectures respecting their properties have been proffered by different authors, but they are all alike unworthy our confidence.

The miasmata producing intermittent fever are generally admitted to enter the circulation; but through what channel they are conveyed, is yet a subject of discrepance. The *primæ viæ*, the skin, the lungs, and even the olfactory nerves, have been severally accused of transmitting the matter into the system. But when we reflect on the continual ingress and egress of the air, loaded with morbific materials in naked contact with the saliva; and when we reflect also on the fact that miasmata have a great attraction for moisture, we may reasonably conclude that the morbific principle cannot fail to unite with the saliva, and be conveyed with that fluid into the stomach. From the enormous quantity of saliva poured out at every meal, it is evident that it was not destined to assist mastication only, but to serve some important purpose in the formation of the chyle. At any rate, it must enter into the

composition of that fluid, and carry with it any morbific matter with which it happens to be intimately blended. The matter of miasms incorporated with the chyle would, in that case, completely elude the elective power of the lacteals, did they possess any such attribute, and enter the general circulation.—It has been recently contended that the lacteals absorb nutritious matter only, whilst the veins of the primæ viæ absorb heterogeneous and foreign substances. These unassimilated materials are carried by the portal blood to the liver, where a further assimilation and elimination is effected by that organ. This accounts readily for disorders of the biliary system, so generally observed amongst the inhabitants of fenny districts, and in those in whom agues have never been evolved. Being constantly imbued in miasms, a surplus remains in the stomach, which is taken up by the veins, and passes directly to the liver, producing the derangement noticed. Having introduced the deleterious principle into the circulation, an inquiry very naturally arises, why is not the disease immediately developed? We know an indefinite length of time intervenes between the introduction of the cause and the evolution of the disease. In the interim, what becomes of the poison? It has been said it circulates with the blood, and acts as a *ferment* until the whole mass has been assimilated. From this view of the subject I must beg to dissent. Such a process appears to me incompatible with the healthy vital action, for in that case assimilation must begin and continue in health. Great and important changes undoubtedly take place in the fluids, but they are primarily the effect of vascular action, and subsequently only the cause of various modifications of disease.—Moreover, the seeds of intermittent fever may remain weeks and even months in the system, without inducing disease. In these instances the poison could not have circulated with the fluids all this time; at any rate if it did, the mass could not have been materially changed, for such a state would have been incompatible with the good health which, in the mean time, has been enjoyed.

From these circumstances I am induced to believe that miasmatic materials do not continue in the circulating mass

any great length of time; but that they are so intimately incorporated with the chyle, as to pass on with that fluid to its ultimate destination, even into the very substance of the medullary tissue itself. Here it may remain quiescent until a sufficiency accumulates to make the morbid impression, which will be sooner or later, or not at all, as the system may be more or less, or not at all predisposed. The vessels of the medullary texture are so extremely remote from the centre of the circulating system, that a considerable length of time must elapse before a particle of chyle from the duodenum can reach these extreme points, where deposition is effected; so that though a person visit a miasmatic district a few hours only, the disease may require several hours for its development. Professor Meyer observes, that foreign substances either fail altogether, or insinuate themselves more slowly into the latter organs, (nerves, spinal cord, &c.) If then the miasms mix with the saliva, are intimately blended with the chyle, pass the lacteals into the circulation, as we know other poisons do; if also, it requires several days for a globule of chyle to reach its ultimate destination in the medullary matter, we may with considerable probability presume it carries and deposits with it those miasmatic materials in question. And this opinion is rendered still more probable by the fact, that it is in this texture sensibility resides, and on it all impressions are made.

From the foregoing view of the subject it might be inferred, *a priori*, that every person living in a miasmatic district would be affected with intermittent fever. For a very good reason however this is not the case, because they are not all susceptible to the action of the miasm. The next question which presents itself is, in what does this susceptibility consist; which leads me to divide the remote causes into predisponent, or those inducing susceptibility to the action of morbific agents; and exciting, or those calling the disease into action.

Exciting causes. These are now so universally acknowledged to be owing to the peculiar gaseous emanations resulting from the decompositions in and about marshes, that any attempt to prove it would be superfluous. It ought to be kept steadily in mind, that to call the disease into action, or simply to excite it,

differs from allowing it to be called into action, or excited, as much as doing an act does from suffering it to be done. Other causes are set down by some writers; but their proper place it will be presently shown is amongst the predisponents only.

Predisponent causes. Predisposition is certainly the most important part of the subject, not excepting even the treatment; for on a correct knowledge of this, prophylactics wholly depend; and consequently the health and happiness of those inhabiting fenny districts turn on this grand pivot.

1st. It is a pretty uniform law of the animal economy, that the suseptibility to the action of almost all agents is diminished by their constant application or regular repetition; and this is particularly true of the poisons, as is daily evinced by those who are in the habit of using them, as tobacco, opium, alcohol, &c. In like manner, those who inhale mephitic gases have the sensibility to their action diminished: hence such persons are said to be acclimated, but more properly habituated. Those therefore unaccustomed to miasms, from their keen sensibility are peculiarly predisposed.

2nd. One of the most important properties of life is its tendency to preserve the body it pervades from the influence of chemical affinities, and the action of deleterious agents generally; therefore, during life the stomach resists the action of the gastric juice, but the moment the vital spark is extinct, it is decomposed by that fluid. In the healthy state of the system so vigorous is the vital principle, that even mercury is unable to make any impression until its energy is moderated by v. s. purgatives, or some depressing measure, when a mercurial action is immediately evolved. The same resistance is opposed to the action of poisons, as in those in whom the seeds of intermittent fevers lie dormant an unusual length of time. It therefore follows that whatever disturbs or interrupts by debilitating, clogging, or in any way deranging the regular performance of any important function of the body, enfeebles vitality and renders it unable to maintain its predominance of healthy action or resistance. A morbid movement is immediately evolved by the exciting cause: hence plethora, abdominal irritations, every kind of excess either in eating, drinking, exercise,

whether mental, or corporeal inanition, despondency, grief, fear, &c. are all predisponent causes, deranging or incapacitating the vital principle. A host of other predisponent causes might be enumerated, such as carious teeth, cold bath, disgusting objects, a peach pit in the stomach, &c. &c. as set down by writers; but they all operate on the same principle, disturbing the harmony of the functions, and thereby enfeebling the vital resistance as before stated.

Whether the body be thus rendered susceptible to the action of the morbific agent, antecedently or subsequently to the introduction of the exciting cause, the modus operandi in both cases is ultimately precisely the same. In both cases the predisponent causes prepare the system, while the exciting call the disease into existence, giving character to the whole morbid process.

From the foregoing premises it is not inferable that predisposition is always necessary to the production of the disease. So great a quantity of miasm may be introduced, or its quality may be of so active a nature, as to overcome the most healthy movement, and force the disease into existence.

The propriety of the foregoing division of the remote causes into predisponent and exciting, is questioned by Dr. Johnson. " The predisponent," he observes, " however, often become the exciting, and the exciting the predisponent causes, as the following example will illustrate. Two labourers set out from London, in summer or autumn, to work in the fens of Lincolnshire. The one is a sober man and the other a drunkard. The latter is attacked with intermittent fever, while the former, though equally exposed, escapes. Here inebriety is evidently the predisposing and marsh miasma the exciting cause. But the sober man having returned to London in the winter, commits a debauch, and immediately afterwards he is seized with the ague. Here, on the other hand the latent miasm becomes the predisposing and drunkenness the exciting cause of the fever."—The last conclusion appears indeed specious, but is far from being just. To elucidate the subject, I must beg to avail myself of the assistance of analogy, and borrow an example from Dr. Paris.—" A patient had been taken mercurial medicines, and using

frictions for a considerable period without any apparent effect: under these circumstances he was abruptly told, he would fall a victim to his disease; the unhappy man experienced an unusual shock at this opinion, and in a few hours became violently salivated." I would here simply ask, was the "unusual shock" the exciting cause of the mercurial action? Is it not certain that the shock overcame the force of the vital principle, as v. s. and purgatives do, and thus enabled the mercury to produce its peculiar effect? So in Dr. Johnson's example. The labourer's drunken fit in London unhinged the vital powers *en masse*, and the miasm immediately excited its peculiar effect, the ague.

To conclude, two states of the system separately oppose the evolution of the disease—habit with its impaired, and vigour with its obtuse sensibility. Their opposites constitute predisposition.

Etiological Remarks. That intermittent and remittent fevers arise from different degrees of the same cause, is an etiological axiom so universally admitted, that to question its validity may be deemed a kind of medical heresy. With all deference due to authority, however, I must beg to dissent from so sweeping a conclusion. Miasms are the product of decomposition of certain substances, under peculiar circumstances, and the recomposition of others; that is, agents synthetically and analytically produced according to the play of affinities amongst the elements of miasmatic materials. In the present advanced state of chemistry it is unnecessary to observe that a slight variation in the synthesis of bodies will produce substances widely dissimilar, or even opposite, both in a physical and operative point of view. Oxygen, hydrogen, carbon, and nitrogen variously combined, constitute all our alimentary substances, how diversified soever their qualities may seem. These very elements, also, enter into the composition of the most active poisons, and by a slight variation in their proportions, produce agents the most destructive to life. The same may be said of gaseous substances: in different proportions of the same elements they support life, are agreeably exhilarating, powerfully depressing, or deadly

poisonous. No one, in his right mind, would pretend to say that these agents were the same, differing only in degree.

Dr. Johnson, in his Medico-Chirurgical Review, observes, "The fact is, that every medicine has a peculiar or specific effect on the animal economy;" then why not morbific agents, which all medicines occasionally are? Dr. Smith, in his Etiological System, also justly observes, "The nature and character of diseases are, for the most part, determined by the remote causes which produce them." One agent will, therefore, produce a peculiar movement constituting an intermittent, another a remittent, a third, combined perhaps with some marine principle, a yellow fever, &c. &c.

That intermittent and remittent fevers are the effect of a different cause, which is peculiar or specific according to the circumstances under which it is produced, is fairly inferable from the following facts. By specific, I do not mean a disease invariably the same under all circumstances, running a determinate course, as the small-pox and measles; but merely an effect corresponding to the nature of the cause, and the susceptibilities and other conditions of the system; and not necessarily incapable of being arrested at any time, as a certain Mons. Bailly has lately proclaimed. The facts I allude to are,

1st. Whether miasmata produce intermittent and remittent fever by assimilation, accumulation, or by any progressive process whatever, there must be an intermediate point between the introduction of the poison and the evolution of a remittent fever, when an intermittent would be inevitably produced, if it arise from an inferior grade of the same cause; consequently, remittents must always begin with intermittents, for a lower grade of concentration, or whatever it be, must of necessity precede a higher.

2nd. They are seldom epidemic to any great extent at the same time; while one is raging, the other appears only in solitary cases, or perhaps not at all. Some seasons I have had an hundred intermittents, and not more than half a dozen remittents, and *vice versa*. Even when they do occur simultaneously, it proves nothing, for the causes of both may exist in

the system at the same time; and when the susceptibility to the action of one is worn out, it may still be susceptible to the action of the other.

3d. As remittents seldom begin, so they seldom terminate in intermittents, not more than once, I may venture to say, in fifty times. I am aware that authors direct us to convert remittents into intermittents, and then give the bark. It is easier in this, as in many other cases, to practise physic successfully at the desk than at the bed-side. I once gave a young lady thirteen emetics in as many days, yet the fever maintained its remittent type unto the end. This practice will succeed when intermittents have put on the remittent form; they are then readily brought back by an emetic and cathartic.

4th. Remittents are often as mild and tractable as the most ordinary intermittents. It was a remark of Sydenham, I think, that epidemics were most severe on their first appearance, and grew milder towards their termination. This is also the case with epidemic remittents, yet they do not decline into intermittents as they descend in grade. I have repeatedly seen them so mild that a single emetic, followed by a cathartic, would immediately arrest their progress.

Pathology. If the circumstance of being irremediable, either by stimulation or depletion characterizes diseases of irritation, intermittent fever must surely belong to that class. That it is often dependent on debility for its evolution is granted; but that it is always so, is far from being true. The subjects of intermittent fever usually enjoy good health during their apyrexial period. Moreover, bark and other tonics as they usually are, or ought to be given, do not remove it curatively by virtue of their tonic power, by *advancing tonicity*, as will subsequently be seen. Fordyce observes, "The bark of the cinchona, exhibited but half an hour before the beginning of a paroxysm of a tertian intermittent, often makes a sufficient impression to prevent the paroxysm from taking place." A fit of passion, or any sudden and smart impression a few minutes before the attack of the ague will, in like manner, prevent its recurrence. It would be almost insulting to common sense to state that tonicity could not be advanced in such a

trivial space of time. In fact, the disease when once formed, is, as Dr. Parr observes, " a creature of habit ;" and may readily continue independently of the causes which first gave rise to the morbid process ; therefore, intermittent fever is, fundamentally, mostly a nervous affection.

Symptomatology. The first manifestations of intermittent fever are unquestionably the effect of agents acting on the living fibre, or nervous tissue. The debility and severe pains are referable to that texture only, as are also the chills ; for animal heat is now viewed more in the light of a nervous than a chemical phenomenon. The secretory and all other functions depending on nervous influence are, for the same reason, interrupted.

That the cold stage is the cause of the hot, is a pathological axiom as true as it is general ; but the manner in which the former induces the latter, is still amongst the mysteries of the nervous system. According to the laws of nervous irritation, so often adverted to, the action which succeeds to the cold stage, or stage of nervous irritation, should be inflammatory ; and this would probably be the case with the hot stage, were it not for the presence, in the system, of the miasmatic material, which shapes the character of the vascular action after its own peculiar manner ; and a movement, exalted, but still irritative or altered, is the result of such a modification.

The excessive pains suffered during the cold stage, are, according to general principles, greatly relieved or materially modified by the vascular action which characterizes the hot stage, or that of organic irritation. Still, in this stage, much anguish is suffered, but it is the effect of fulness and excessive commotion of the arteries ; and is quite a different sensation from those attending the cold fit.

The general disturbance is most probably relieved by the sweating process which marks the third, or sweating stage ; although it is quite possible that the vascular action may subside, and the sweating process ensue as the effect of such cessation.

As for the periodicity of the paroxysms, those who pretend to explain the phenomenon disclose nothing more than their inadequacy to the attempt.

Treatment. The treatment of intermittent fevers embraces four sets of measures : the preparatory, the palliative, the curative, and the preventive. It is not meant that each set is called for in every case ; the palliative is seldom required, and the preparatory less frequently still where people are in the habit of seeking timely assistance. I shall consider them in the order in which they are enumerated, without any ceremony about the arrangement.

1st *Preparatory.* Besides the injurious effects of the sudden depression and elevation of the nervous power, the violent commotion of the vascular system has a direct tendency to derange the structure of complicated parts, such as the glands generally, particularly that complex one, the liver. Hence, in cases of long standing, it is not uncommon to find this viscus disordered, and in such also the secretory functions generally are perverted. These act as concurrent causes, by impeding healthy movement, and demand our first attention ; for, without their removal, our cures will be imperfect, and relapses certain. Such a condition may be removed by calomel administered in small doses two or three times every afternoon, and worked off next morning by sulph. magnes. and infus. senna. This course may be persisted in three or four days. Under this treatment alone, a cure is sometimes unexpectedly effected by the natural efforts of an elastic constitution. In some old cases, however, these derangements have not been induced. The liver has been able to free itself, and a copious secretion of bile has been the result. This vitiated bile regurgitating into the stomach, and entering the general circulation, clogs the whole system. It is quite unnecessary to state that under such circumstances we should premise an emetic and cathartic. It is often surprising how suddenly such cases, which before resisted the use of all remediate means, yield to very common measures after such preparatory treatment. These states being consequent to the repetition of the paroxysms, exist only in cases of considerable length of standing ; consequently this preparatory treatment is seldom required.

2nd *Palliative.* By palliative treatment is meant that required during the paroxysm. This again may be divided

into that to be pursued during the cold, the hot, and the sweating stages.

Cold stage. In this stage the indication is to allay nervous irritation, and promote vascular action. For this purpose anodynes, diffusible stimuli, and warm bathing, general or local, may be used with the most happy effect. Tinct. opii 120 gtt. with ether sulph. 60 do. administered in a pint of some warm vegetable infusion, accompanied by warm pediluvium and plentiful bedding, will soon arrest the cold fit, and induce a copious flow of perspiration.

Hot stage. During this stage the warm bathings and warm infusions are inadmissible. Our object is still to allay irritation, but at the same time to reduce vascular action. When the anxiety, pain, and restlessness are great, and the patient plethoric, blood may be drawn, and immediately after an opiate of tinct. opii 120 gtt. with twice the quantity of spts. nit. dulcis in a tumbler of cold water, may be administered at a draught. I have frequently seen such a dose act like a charm, relieving every symptom in a few minutes. I am aware that the administration of opium in the hot stage is condemned by some eminent writers. But Drs. Cullen and Lind were advocates for the practice; and I must add, that what I have uniformly seen, that I must be permitted to believe. Exhibited as it frequently is in half and quarter doses, it is just calculated to aggravate; but let all intended to be given be administered at once, and the result will justify the practice.

Sweating stage. During this stage little more is required than to promote perspiration when it appears to have a tendency to abate before relief is obtained. If it fail from debility in the patient, as in some old people, hot vegetable infusion with camphorated spts. or paregoric, may be advantageously administered. If on the contrary it fails from excess of action, tinct. opii and cold water will seldom fail to afford relief.

3d. *Curative.* Here it will unquestionably be said that I have undertaken a useless task. We have our eupatorium, salix, cornus, quinine, arsenic, prussiate of iron, &c. All this is true, yet still something may be done by way of improvement. We know that in the most skilful hands, these frequently fail, after being administered weeks in succession.

For reasons already stated, I have considered intermittent fever as consisting of an action neither sthenic nor asthenic, but irritative perverted, or a movement peculiar to itself, yet nearly allied to many others. This movement, commencing in the nervous tissue, finally involves also the moving fibre, hence it may be called an *organic irritative disease*. It must be quite obvious that to elevate or depress this movement, would change its force only; the form would remain the same. It therefore becomes necessary to induce a different movement, and one that shall supplant wholly the perturbed action. The natural action is indeed a different one from the diseased; therefore to raise and maintain a predominance of this, will frequently overcome the disease; and this is just the course nature and nature's physicians pursue to remove the disease. I have known them however more than once to spend six months in the attempt, and fail at last. In this manner the simple tonics often succeed in assisting nature. This plan is certainly not curative, but adjuvant only. To remove the disease by instituting a new action, on the contrary, is truly curative. It is indeed done during the apyrexia, and may therefore be said perhaps to be preventive only. This, however, is not doing the plan justice. It is adopted during the apyrexia, not so much because it is impossible, as it is impracticable, to induce a more powerful action during the paroxysm. The action we substitute is purely artificial, and one which we may with propriety call our own.

To cure an intermittent fever on this principle of counter-irritation, it is not necessary to begin a week or two in advance. A few hours are quite sufficient for the purpose. Habit weakens the effect, of most agents. To begin, therefore, with small doses, and to increase gradually, would produce a small effect, though the dose were finally augmented to a great extent; for a habit would be created about as fast as the dose would be increased, and the patient would be thus for ever kept in *statu quo*. For this reason bark so often fails, while quinine, of so much more concentrated force, succeeds. Dr. Wilson could not see why some simple tonic of inferior grade should succeed after the cinchona failed. But the

susceptibility to the action of the bark being worn out, the system was yet alive to that of the simple tonic.

From the foregoing premises it follows, that to cure an intermittent fever by instituting a new action, it should be created as expeditiously as is consistent with safety; also, that it is required to be vigorous only at the instant the paroxysm would be evolved. For this purpose two articles only are worthy our confidence; and these are the cinchona or its salt, the sulph. quinine, and arsenic.

Bark. Whoever undertakes to cure an intermittent fever by this article, beginning with a small dose and gradually augmenting it, will find his specific fail in, at least, five out of eight cases. To make a thorough impression, it requires to be administered in as large doses as the stomach can bear. Like all other medicines given to cure an ague, it should be administered during one apyrexia and *one only.* Dr. Fordyce gave enough in half an hour to prevent a recurrence of the paroxysm, in which case it must act, as Burns says it does, "as an irritant?" If it fail a second and third time, it must be relinquished, and some other article substituted.

Sulph. Quinin. This new and popular salt promises to supplant every other article in the treatment of intermittent fever. It requires to be administered on the same principle with other irritants, that is, the whole in one apyrexia. Four grains will sometimes succeed, but ten being equivalent to one ounce of bark, is not too much, given in divided doses. Deprived of all cortical, ligneous, and other inert and cumbrous matter, it is peculiarly adapted to delicate stomachs.

Arsenic. This is almost the only article I ever employ for the cure of intermittent fever. I have administered the bark, quinine, and prussiate of iron. But arsenic is certainly the most prompt, efficacious, convenient, and cheap medicine with which I am acquainted. Properly managed, it is perfectly safe for old and young, invalids, and pregnant women; as well as for the phthisical. The swellings so much feared, are the effects of mismanagement, or of the disease. Dr. Parr says of arsenic, "It is undoubtedly a very active and powerful medicine; nor have we found any disadvantage from its use.

It has succeeded where bark, in every form and with every addition, failed." And I can safely add, that I have administered it to more than a thousand people, and I never saw any injury arise from its use in my practice. Besides the dropsy, it has been accused of producing rheumatism; but this opinion partakes too much of vulgar prejudice to merit a serious reply.

Arsenic is usually directed to be administered in very small doses at first, beginning with three, five, or six gtt. of Fowler's solution, morning and evening, increasing the dose one drop every day until a cure is effected. In this manner two or three times the quantity which was originally sufficient to accomplish a cure, is introduced into the system, and yet the disease continues. In the mean time, the patient's face swells and the medicine is discontinued, as the physician should be, who prescribed it. Dr. Paris observes, that great and dangerous accumulations of medicines sometimes take place in the system, especially of mercury, lead, arsenic, &c.; and this would be the most easy and efficacious way of introducing it to effect that object. As was observed of bark, arsenic should be administered during one apyrexia *only;* and it may be given in substance or in solution. The following are the combinations I have always used. Neither undergo decomposition by time, I therefore prepare enough at once to last several years.

Arsenical Solution. R. White oxide of arsenic ʒiij. Carbon. Potass ʒi. Pulv. Rhei ʒi. Rain water f lbj. Boil half an hour. Remove it from the fire; then add immediately brandy f lbss, and water enough to make the whole amount f lbjss: lastly, filtrate.

Arsenical Pills ℞. White oxide of arsenic ϑj. Pulv. Rhei ʒiiss. Oil of caru gtt. 10. Molasses q. s. Mix and make a mass to be divided into eighty equal pills.

From eight to fourteen of these pills may be administered according to the obstinacy of the complaint and the urgency of the case. In tertians they are all to be given during one apyrexia. In quotidians one half of what is intended to be administered may be exhibited during one apyrexia, and the

other half during the next; and in quartans they are to be given within the eighteen or twenty-four hours previous to the expected attack. They should always be administered at as equal distances of time as convenient, not disturbing the hours of sleep, as that would derange the harmony of order amongst the functions.

When the drops are preferred, from sixty to a hundred may be taken, as the case may seem to require; dividing them in the same manner as the pills, eight or ten may be administered every two hours during the apyrexia, beginning in the morning at six and continuing until ten o'clock in the evening: the remainder may be taken the next morning. The most equal and eligible method is to put the quantity of drops to be given into a tea-cup, and add to it as many spoonsful of water as there are to be doses, and order one to be taken every two hours, &c.

Six or eight hours after the last dose of arsenic, a cathartic should be invariably prescribed. This is an injunction not to be neglected on any pretext whatever. Cathartics act almost as specifics in counteracting or removing any unpleasant consequences which might arise from the use of arsenic. I have not, in a single instance, where they have been administered, known any swelling of the face to succeed, even where four grains of arsenic had been exhibited. The most troublesome effect of the medicine is the nausea which it will sometimes create. This however is of short duration, and does not interrupt the cure.

By this plan of treatment the expected paroxysm may be prevented in ninety-nine cases out of a hundred; the diseased habit is thereby thoroughly broken up, and a cure is the result. The medicine being administered under these regulations, the paroxysm is no more to be expected than a tooth is expected to ache after it is extracted. A degree of commotion generally takes the place of the expected paroxysm, but it amounts to a little more than a slight fever, continuing a few hours. The operation of the cathartic being over, the patient finds himself in the possession of good health.

Mons. Bailly, contends that intermittents have a determi-

nate course to run, and consequently do not admit of a cure. Now this is all perfect nonsense. They may be arrested at any time when the proper means are used, even to a day. I have repeatedly arrested them after the first fit, second fit, and in fact at all times, from three days' continuance to two years, and with the same facility. Sometimes, however, arterial action is elevated from the commencement, constituting the inflammatory diathesis of authors. This condition occurs most frequently in hard drinkers, and those who have indulged too frequently in the pleasures of the table. This state being opposed to the evolution of irritative or changed action, tends constantly to prevent the operation of the counter-irritants employed. Hence in such cases if the excitement be reduced by venesection, an emetic or a cathartic, according to existing circumstances, a less quantity of the curative agents will be required. Without the adoption of these preliminary measures, our counter-irritants in ordinary doses will fail; not because there exists any inflammation in a particular organ, but because their power is inferior to that to which they are opposed; we must then, ofcourse, reduce the intensity of the opposing power, or increase that of the counter-irritant, either of which will effect the object in view: but as the former can be accomplished with less expense to the system than the latter, it ought certainly to be adopted.

4th. *Preventive.* To prevent relapses which so frequently occur amongst labouring people, it is necessary to have recourse to some mild unirritating tonic, given in simplicity, that is, not in tincture. For this, perhaps, no article answers better than an infusion of the bark of the common dogwood, (cornus florida) and the swamp dogwood, (cornus circinata.) The infusion may be taken cold, a few mornings after the disease is broken up. The rules of health are to be strictly adhered to, for any irregularity, exposure to rain, night air, any excess, &c. will inevitably derange the healthy order of movement, and favour the evolution in the nervous system, of the same habitual action which repetition has established.

ART. II. *Contributions in Medical Jurisprudence and Police.* No. III. By THEODRIC ROMEYN BECK, M. D. Professor of the Theory and Practice of Physic in the University of the State of New-York, and Lecturer on Medical Jurisprudence.

Trials for Murder.

DURING the past year, (1825) two trials of considerable interest in a medico-legal point of view, have occurred in the city of New-York. I propose devoting this number to a statement of them, accompanied with such remarks as they naturally suggest.

Trial of Moses Parker and others for the Murder of David R. Lambert.

This case was tried on the 21st of June, 1825, before the court of oyer and terminer for the city and county of New-York. For the facts which I shall state, I am indebted to a pamphlet report of the trial, containing the testimony, the arguments of the counsel, and the charge of the judge. It is probably as accurate as similar publications usually are.

The deceased, a retired merchant of great respectability, had, in company with a number of friends, been spending the evening at the house of a gentleman, some distance from the city. As it was moonlight, they returned about one o'clock in the morning on foot, allowing their carriage to precede them. When arrived at the upper part of Broadway, near the "Sailor's Snug Harbour," a stone was thrown at the carriage by some one of a party ahead of it. The coachman stopped and charged the person whom he supposed guilty, with the act, but it was denied. While this was going on, the gentlemen came up. "Mr. Lambert preceded the rest a few paces, went to the carriage and asked what was the matter. The coachman replied, 'that one of those persons had thrown a stone at the carriage.' One of the young men then

said, 'he accuses us of having thrown a stone,' to which Mr. L. answered, 'Did you not do it?' The reply was, 'No.'" This appears to have been the only conversation between the respective parties. Mr. L. and his friends walked on rapidly, to avoid any further contention; but in a moment or two, they were all attacked—several were struck in the face—another attempted to be thrown down, while a severe blow was given to Mr. Lambert, "as if upon the stomach," (*Mr. Pell's testimony*) which caused him immediately to fall. At the moment of receiving it, he made an exclamation, but never spoke afterwards—was taken up insensible, and died, either as soon as, or before he could be carried into the house.

Dr. John I. Ingersoll, was called to see Mr. L. at 3 A. M. and found him dead. A small bruise, or rather a scratch, was visible on the nose, and a mark on the under lip, as if cut by the tooth. The body externally in other respects appeared perfectly natural.

Drs. Post and Stevens examined the body eleven hours after death. There was no appearance on it like a contusion or wound, and indeed the external appearance of injury was very slight. The viscera of the abdomen were found perfectly natural, with the exception of the liver, which was remarked as extending to the left side. The stomach, however, was partly digested, and it contained the remains of a supper partially acted on by the gastric juice. On its internal surface, some small red spots of a stellated form were visible, apparently, (says Dr. Post) effusions of blood proceeding from some of the smaller vessels, and extending in different directions.

The lacteals were remarkably full, showing perfect digestion. And fourteen days after death, Dr. Post also examined the brain. "It contained no extravasated blood; but was such as to afford as satisfactory evidence, that death was not produced there, as if it had been examined at his death."

Witnesses, (among whom were medical men) deposed that they had known Mr. Lambert for thirty years—that he had enjoyed good health, and none of them had ever known him subject to fits.

The counsel for the prisoners, (as they afterwards stated) endeavoured to draw from the testimony, such inferences as would establish the probability of the present being an instance of sudden death from fear or fright. Their inquiries were also directed to the appearances observed in cases of a fatal blow on the stomach. It was generally agreed by the medical witnesses, that this might occur without leaving external marks of violence. Dr. Post stated, " that he founded his opinion on descriptions he had seen of such spots in persons that died of violence. A man was kicked on the navel, by a horse, and instantly died : the same spots were visible in the inner surface of the stomach : the difference in the cases is, that in the one outward bruises were visible, in the other not—this might have proceeded from the violence of the blow." Drs. Post, Stevens, and Cheeseman, were all asked whether, if these appearances had been found in a case of sudden death, without any knowledge of the attendant circumstances, they would necessarily attribute them to an act of external violence. The reply generally was in the negative—circumstantial evidence must guide—but it was strongly intimated by several, that the marks could *hardly be produced* without some act of violence, and the idea would hence necessarily suggest itself, that this was the cause. Dr. Stevens did not suppose that the same marks could be produced by a fall, for in such case, the muscles are in some degree contracted and ready to receive the blow.

The following question, with its answer, deserves transcribing. Would not the mark from a blow on the stomach, be confined to one spot ? *Ans.* by Dr. Post. The concussion received by the stomach may affect it in various places.

The prisoners were found guilty of manslaughter.

As to the *cause* of death in this melancholy case, I apprehend there can be but little doubt. When the occurrence of a blow on so sensitive an organ as the stomach is actually sworn to; when the attendant circumstances and subsequent symptoms indicate its effects, it would surely be inconsistent with all the rules of sound reasoning and evidence, to adopt

the alternative suggested by the prisoner's counsel, viz. sudden death—either *per se*, or originating from sudden fright. All writers who have noticed this subject, appear to consider death as a common consequence. Morgagni speaks of it in this way, as well as every subsequent author, on Medical Jurisprudence. "The consequences arising from blows on the abdomen," (says the former) "sometimes prove fatal within a few days, but at other times, *immediate death without any other obvious injury than ecchymosis on some of the viscera.*"* "When we reflect," says Foderé, "that the stomach is one of the viscera most profusely endowed with nerves specially devoted to the continuation of life; and that the epigastric region is the seat of the solar plexus and semi-lunar ganglion —(in themselves a kind of brain, or centres of action) we shall not be surprised that a blow on that organ may occasion instant death, without leaving any lesion beyond a slight blush on the stomach and its adjacent organs."† Lastly, says Smith, "Blows on the belly, without wounds, have frequently caused death. A very familiar illustration of this frequently occurs in that species of personal combat [which is] peculiar to Englishmen. A blow in the region of the stomach will cause instant death, without any visible signs of the manner being discoverable. It is supposed by the best authorities, that people are thus killed by the sudden shock to respiration, through the intimate connection of the eight pair of nerves."‡

The *appearances* observed both on external and internal *examination*, in the present case, correspond with the quotations given above; while the absence of disease in the heart and brain give as much certainty to the assigned cause, as it is possible to produce by any course of medical reasoning. The observations of Dr. Paris illustrate the narrative of the dissection in a most satisfactory manner. "A blow on the

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* Cooke's Morgagni, *Amer. Edit.* vol. 2. p. 257.

† Foderé, Medecine Legale, vol. 3. p. 350. "Le celebré *Hunter* assimilé avec sagacité cet effet nerveux à celui de l'eclair." *Metzger* Principes de Med. Legale, p. 91.

‡ *Smith's* Forensic Medicine, 2nd edit. p. 285.

stomach sometimes occasions instant death—an effect which would appear to arise from an injury inflicted upon the eight pair and sympathetic nerves, by which the heart is instantly paralysed. In these cases, the heart has been found empty, and the stomach has appeared red and inflamed—this latter appearance is the obvious effect of the sudden cessation of the heart, producing the settling of the blood in the extreme arterial branches." And again, "In these cases, inflammation is necessarily out of the question—for death is immediate—the red and inflamed appearance, therefore, of the stomach, can alone be accounted for, by regarding it as the effect of the sudden cessation of the heart, producing an accumulation of the blood in the extreme arterial branches."*

It deserves mention, in concluding our comments on this case, that even the slight alterations just noticed, may sometimes be wanting; and this is still more necessary of remark, as an instance may possibly occur, in which their absence may lead to incorrect deductions. I therefore subjoin the following extract from the high authority of Sir Astley Cooper.

"Slight injury to the stomach, although it does not occasion any sensible organic change, will sometimes destroy life. A man recovering from fever and walking in Fleet-street, quarrelled with a woman; another female came up and gave him a blow on the stomach, which caused almost instantaneous death. Upon dissection, to discover the cause of his expiring so suddenly, no morbid change was perceptible.

"A healthy labourer belonging to the India house was attempting to lift a heavy weight, when another labourer came up and said, 'Stand on one side, let an abler man try,' at the same time, he gave the former a slight blow on the region of the stomach, when the poor fellow immediately dropped down and expired. On examination of his body, there was not any mark of violence discovered."†

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* Paris' and Fonblanque's Medical Jurisprudence, vol. 2. p. 121. 174.

† A. Cooper's Lectures, edited by Tyrrel. *Amer. Edit.* vol. 1. p. 11.

Trial of John H. Charpier and Charles H. Charpier, for the murder of Frederick L. Teige.

This case was tried on the 27th of June, 1825, before the court of oyer and terminer for the city and county of New-York. The evidence adduced was published in the "AMERICAN" of the 1st of July, and as the report appears to have been drawn up with care and accuracy, I shall not hesitate to rely on it.

Frederick L. Teige, a man advanced in years, and who a few weeks previous had arrived in this country from Switzerland, was found dead in the city of New-York, in the morning of Saturday the 28th of May, 1825. He lay in a gutter on his face, and underneath his face which did not touch the earth in consequence of the narrowness of the gutter, was a puddle of congealed blood, extending from ten to fourteen inches. On raising the body, fresh blood was observed on the nose and face, and indeed some dropped from his face, while in the act of lifting him. There was however none on the rest of the body. The right hand lay upon his back, and the right foot was drawn up.

The body, it appeared, lay at the foot of a declivity of about twelve feet, and the bank was composed of very loose sand. No marks of struggling, such as breaking away of the sand, were noticed, and no sand was seen on his back. His hat appeared to have fallen off and slipped from him, as it lay a little more on the hill. One witness stated that he saw on the side of the hill, marks of heels as if coming down the bank, "in a kind of slant of the feet from where his hat lay." On the bank, there were marks of five or six steps by one person.

The Coroner on his examination stated, that around the neck of the deceased and between his vest and shirt, was a green cord, loose. The neck cloth was very tight, as well as the shirt collar—so tight indeed, that the witness could scarcely introduce his finger between the neck and collar, and after unbuttoning it, he could not have buttoned it again. None of the clothes were torn, nor was the cravat out of

place. On the neck, the marks of a thumb and three fingers were visible, but witness could not say whether they were of the right or the left hand.

Dr. John J. Graves examined the body in the first instance. There was a wound on the left temple, about one inch and a half from the eye, one inch in length, and crossed by another of the same length; the wound extended to the bone, and there was an abrasion of the skin on the top of the nose. On the right side of the head, the skin was rubbed off to the extent of a dollar. There were some marks of the skin being rubbed off on the right and left side of the throat. No fracture was discovered, and on taking off the skull cap, he observed a large quantity of serum. The witness also added, that in apoplexy and death from strangulation, the same appearances are observed in the brain, but on his cross examination, in answer to the question whether a large quantity of serum in the cavities of the brain, was not a distinguishing characteristic of apoplexy, he replied, that he believed it was. He had not been able to find that it followed strangulation. *Question.* Was there not a sufficient quantity (of serum) in this case, to indicate apoplexy, as distinguished from strangulation? *Answer.* There was. *Question.* Might not the bruises on the head have been easily occasioned by the falls, which a drunken man would meet with in staggering through the streets? *Answer.* Yes.

Dr. John W. Francis appears to have been subsequently called on to examine the body, (at 1 P. M. of Saturday.) The countenance was very turgid and discoloured, and loaded with blood. The eyes protruded—the lips were also protruded and somewhat livid. The tongue pressed firmly against the teeth. About the neck was a strong mark, as of a ligature or handkerchief forcibly applied. This was very distinctly visible, and nearly as low down as the collar of the shirt. The jugular veins were much distended, and the neck generally swollen. These marks are characteristic of a ligature being externally applied and with great violence, producing death.

With regard to the wound on the head, witness did not pay much attention. He saw some abrasion on the side of the

scalp, but is not positive on which side—rather lateral and a little posterior. The upper part of the head had been removed before witness examined the body.

Witness afterwards examined the body internally—the heart, the lungs, and the larynx. The right side of the heart was considerably surcharged with blood—the lungs were loaded with blood of a dark colour—but the most important section was that of the larynx—the internal parts exhibiting marks of strong external violence. These marks were strong discolorations in the larynx, arising from the effusion of blood. From the examination, it is the professional opinion of the witness, that it could have arisen from no other cause but strangulation from a ligature externally applied.

On his cross examination, Dr. F. stated that the deceased was a stout, athletic man, of a large neck and full frame. The carotids and jugulars were quite full of blood. Saw no marks of injury on the body. Although witness allowed that the recumbent posture, intoxication, or any ligature around the neck might all incline to apoplexy, yet he thought, " that the mark on the neck could not have been caused by a tight collar, but must have arisen from some ligature violently applied."

Dr. Anderson examined the body in company with Dr. Francis and corroborated the latter's statement. The smaller vessels of the larynx were ruptured. On his cross examination, he allowed it possible, that the marks on the neck might have been occasioned by the deceased, in an effort to free himself from the compression of his own cravat. And in answer to some questions, he replied that a sudden fall headlong would give an extraordinary momentum to the rush of blood to the head—but doubted whether it would particularly affect the larynx. He also allowed, that in cases of strangulation, the jugulars would be most distended above the ligature, and that in this case, he did not observe any such appearance.

Two brothers, John and Charles Charpier, countrymen of the deceased, and who had come over with him in the same vessel, were indicted for his murder, and tried on the 27th of June, 1825. Several suspicious circumstances led to this—

such as their being with the deceased late on Friday evening, and also having some of his property in their possession. This last appears however to have been given to them, and it was also proved, that Teige at the last place where they were seen together, stated that he was going two miles out of town. It further appeared on testimony, that the character of the prisoners was good—that Teige had been for years in his own country, in habits of gross intoxication—that he had been drunk every day during the week of his death—and particularly so, on the Friday evening at 10 o'clock, preceding the Saturday morning when he was found dead.

The jury acquitted the prisoners, without leaving their seats.

Two questions arise on a review of this narrative. 1. *Was the death of Teige owing to accident or design?* 2. *If the latter, were the prisoners guilty of the crime?* The jury probably with great justice decided that they were not, and we have therefore to consider only the first inquiry; and its investigation includes the most obscure and debateable part of Legal Medicine. The facts which we have are few, while the morbid examinations have been so imperfect and general, that we can only hope to arrive at probabilities, and even these require some qualifications. In the case before us, the death, if *accidental*, was undoubtedly owing to *strangulation*, and it is this combination, that renders it so very peculiar and interesting.

After a careful survey, I am inclined to the opinion, that no attempt was made to destroy the life of Teige, but that his death was the result of accident. I make this declaration thus early, because it will lead to a better understanding of subsequent remarks; but I must also here add, that the opinion is not without its difficulties.

The *previous history* of the individual first deserves attention. He had been for years in habits of intoxication—was drunk during every day of the week of his death, and particularly on the evening of the night on which he died. He was a stout, athletic man, of a large make and full frame.

The external appearance of the body and its situation are striking. He lay at the foot of a declivity of about twelve feet. The sand which constituted the hillock was not disturbed, further than by the feet of one person. The body was found in the direction that might have been expected had he fallen from this height, and the slight abrasions on the nose and face were barely such as would result from striking on the pavement. Around the neck was his shirt collar, so tight, that the coroner could scarcely get his fingers between them, and over this the neck handkerchief also very tight. This last was not out of place, nor were any of his clothes torn.

If we suppose that apoplexy was produced here, we have three circumstances all corroborating the opinion.—*The habits of intoxication.* On this I need not enlarge, as it will be universally allowed that they predispose to the disease, in a full habit. *The tightness of the dress around the neck.* "Many accounts of facts might be quoted in support of the opinion, that tightness about the neck and other causes of obstruction of the veins carrying blood from the head, or interruption of the free transmission of blood through the lungs, may give occasion to apoplexy. Dr. Donald Munroe states, that he has known soldiers carried off by apoplexy, in consequence of stricture of veins of the neck, from their having been obliged to wear their cravats too tight. Winslow has made a similar observation in the Memoirs of the Academy of Sciences for the year 1741."* Both these circumstances which I have mentioned would aggravate the severity of the attack, *if the body, as in this case, was in a depending situation,* the head lower than the rest of the body, and that again

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* Cooke on Nervous Diseases, Amer. Edit. p. 107. See also Abercrombie on Apoplexy, Edinburgh Med. and Surg. Journal, 14. 572.—"A boy mentioned by Zitzilius had drawn his neckcloth remarkably tight and was whipping his top, stooping and rising alternately, when after a short time, he fell down apoplectic. The neckcloth being unloosed and blood being drawn from the jugular vein, he speedily recovered. Kortum mentions a Swedish officer, who to make his men look well in the face, obliged them to wear their collars very tight; the consequence was, that in a few years, half the regiment died of apoplexy."

with the face to the earth. It will be readily conceded by all who have ever fallen in a similar way, that the clothes are usually drawn down, and thus tightened around the neck, and produce very unpleasant sensations, unless the person is speedily relieved. How much more violent must have been the effect on this unfortunate being, unable probably to assist himself in the slightest degree.

In connexion with the external appearances, one or two circumstances require particular mention. The *blood* noticed on the sand and in the gutter, doubtless proceeded from the nose. It does not seem, according to the testimony of the witnesses, to have come from the slight wounds on the face and head. *The marks of fingers on the neck*, are mentioned by the coroner as visible, but he is not positive whether they were of the right or left hand. This is one of the appearances which render the case somewhat doubtful ; but it may certainly be explained in a manner similar to what Dr. Smith has done, when remarking on a case where manual strangulation was actually the cause of murder. " If (says he) what has been said on death from internal morbid causes be referred to, it will appear admissible that a person in a fit, or in a state of extreme intoxication, falling accidentally, may get into such a helpless posture, that his own hand, or some other hard body pressing on his throat, would occasion death, or this may occur from other causes, while pressure on the neck, leaving marks, may be merely adventitious."* One of the medical witnesses indeed allowed it possible, that the mark might have been produced by the deceased, in an effort to free himself from the compression of his own cravat. Lastly, there was *a strong mark on the neck*, " nearly as low down as the collar of the shirt." It must of course be matter of opinion merely on this point, yet I can imagine that the continued pressure of a shirt collar for some hours, both before and after death, producing the extreme tightness mentioned by the coroner, would possibly leave as distinct a mark on the neck, as strangulation by another. It is to be regretted, that

* Gordon Smith's Forensic Medicine, 2nd edit. p. 241.

the breadth of the mark, and its exact situation, were not more minutely described, and the correspondent place of it and the shirt collar should undoubtedly have been the first thing noticed before the body was moved. Certainly the agitation of carrying it might have shifted the relative situation of the latter.

The countenance was very turgid and discoloured, and loaded with blood. The eyes were protruded—the lips were also protruded and somewhat livid—the tongue pressed firmly against the teeth. The jugular veins were much distended, and the neck generally swollen. These I shall hereafter notice.

Internal Examination. The *head* does not appear to have been minutely examined, and we are not informed whether there was extravasation of blood, or fullness of the blood vessels. A large qnantity of serum was however found, and Dr. Graves in answer to a question, stated that he believed its presence was a distinguishing characteristic of apoplexy, as he had not been able to find that it followed strangulation. This is certainly correct, and the reason probably is, that usually persons in sound health are the victims of strangulation, and in such, of course, we should not expect to find marks of disease in the brain. But it should also be observed, that although a *large* quantity of serum may, in itself, and even unconnected with any other morbid appearance, indicate a predisposition to an apoplectic attack, yet its presence is too often considered unnatural. "No pathological anatomist should be ignorant that serous effusion may exist throughout the brain so frequently and to such an extent,when no cerebral affection preceded death, that unless some other test of disease be observed, the serous effusion alone can never be assumed as morbid, and consequently that for want of such a test, an almost incredible proportion of the facts collected both by the ancients and even by the most recent of the moderns, is utterly useless for the purposes of science."*

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* Edinburgh Med. and Surg. Journal, vol. 21. p. 200.

The *Heart and Lungs.* The right side of the former was considerably surcharged with blood, and the lungs were loaded with blood of a black colour.

The *larynx*, on its internal surface, exhibited strong discolorations arising from the effusion of blood.—Its smaller vessels were ruptured. This is one of the most remarkable circumstances attending the present case. The examination of the throat has been greatly neglected in instances of strangulation, and I cannot find a single one, in which the state of the larynx has been noticed. Even in the case of General Pichegru, so late as 1804, who was said to have strangled himself in the Temple at Paris, this part was totally neglected.* But we should suppose that where persons have been hung, the force of the sudden descent of the body, exerted particularly on the part in question, would leave a morbid change more extensive and indeed more violent than in simple strangulation. Such however is not the fact. In an instance, examined by Esquirol and Orfila, of suicide, where the deceased hung suspended six hours, the internal surface of the cartilaginous rings of the trachea only presented some slight enlargement of the capillary vessels, (*herborizations noiratrés qui semblaient appartenir aux capillaires veneux.*)†

In the trial before us, I will only say, that it seems a result inconsistent with the idea of homicidal strangulation, inasmuch as the dress and situation of the body do not correspond with such an idea, and I would suggest, whether there may not have been previous irritation, and indeed inflammation of the parts, owing to the habits of the individual. "The inner membrane of the larynx, (says Baillie) is very apt to be inflamed, and this generally accompanies the inflammation of the inner membrane of the trachea. Sometimes however, an inflammation shall take place which is confined to the cavity of the larynx." In another place, he describes this state as

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* Chaussier Medecine Legale, p. 293. This distinguished author severely censures the omission.

† Orfila. Lecons de Medecine Legale, vol. 1. p. 566.

consisting in a crowd of minute florid vessels—which give it a general appearance of vascularity.* If a state of irritation—the precursor possibly of more active disease, may be allowed to have been present, (and such marks of irritation are, I apprehend, more or less frequent on those who are constantly intoxicated,) might not the pressure around the neck, have produced the rupture and discoloration mentioned by the witnesses? The suggestion is thrown out without intending to decide on the nature of the phenomenon.

Having thus reviewed all the appearances, both external and internal, which were related on the trial, I venture to repeat my former suggestion, that the weight of testimony is in favour of its being a case of *accidental strangulation*, rendered positively fatal by inducing apoplexy—or at least an apoplectic state of the vessels. "Strangulation, (says Dr. Abercrombie) when the neck is not dislocated, seems to be simply apoplexy. A man brought after execution to Sauvages, was recovered by three bleedings, sat up and talked, his breathing and deglutition being natural. After a short time, the part of his neck where the cord had been applied began to swell, so as evidently to impede the circulation in the veins of the neck; he became drowsy, his pulse and respiration slow, without dyspnœa, and in a few hours he died apoplectic. A woman mentioned by Wepfer, recovered after execution under the same treatment. After her recovery, she was for some time affected with vertigo, which subsided gradually.

"The apoplectic state, as it occurred in these examples, could neither depend on increased quantity of blood, nor increase of its impulse, but simply upon *interrupted circulation;* and this principle, I think, will be found to accord with all the phenomena of simple apoplexy. By the term interruption, I here mean such a derangement of the circulation in the head, that more blood enters by the arteries than can be transmitted by the veins."†

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* Baillie's Morbid Anatomy, 3d Amer. Edit. p. 56, 57.

† Abercrombie on Apoplexy, Ed. Med. and Surg. Jour. vol. 14. p. 572.

While considering this question, it must also be remembered, that the continuance of pressure on the neck produced a suspension of respiration—evidently the precursor of death. We thus see how the train of appearances are explained.—The heart, according to Mr. Brodie, continues to pulsate for several minutes after the breathing has entirely ceased, in consequence of which, the blood which passes through the pulmonary vessels no longer receives the influence of oxygen, and therefore *black* blood circulates,* (as was here the case—the lungs being loaded with black blood and the right side of the heart surcharged.) This also completely illustrates the state of the countenance, the eyes, lips, and tongue.

In closing these imperfect comments, I will remark, that the instance before us, is one, which, *with all its attendant circumstances*, is not very likely again to occur. Such circumstances however, are of most value in forming an opinion, and they will continue to be so, until coroners and coroner's juries are more impressed with the importance of their functions—until dissections shall be more minute and complete—and (above all) until the study of legal medicine is made the actual business of at least a portion of the profession, rather than, as it now is, a subject of speculation and hasty examination, by witnesses too suddenly summoned, and too often imperfectly prepared.

Albany, Sept. 5, 1826.

ART. III. *Case of Malformation of the Œsophagus and Trachea.* By A. F. HOLMES, M. D. Corresponding Member of the Medico-Chirurgical Society of Edinburgh, and Professor of Chemistry and Materia Medica in the Medical Institution, Montreal, Lower Canada.

A CHILD was delivered by my friend Doctor Arnoldi on the 13th March, 1825, without any extraordinary appearance, except a great abundance of liquor amnii. On inspection, the anus was found imperforate, an imperfection that was easily remedied by a stroke of the lancet, after which, several evacuations of meconium took place. The child lived till the

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* Paris' and Fonblanque's Med. Jurisprudence, vol. 2. p. 32.

23d. It was remarked, that whenever applied to the breast, it drew the nipple as usual, but was immediately seized with symptoms of suffocation, and these were only relieved by its throwing up the milk it had taken, which was always very frothy and mixed with mucus.

Autopsia. Externally, body emaciated. Abdomen distended. An incision being made along the mesial plane from the chin to the sternum, and the parts carefully examined, they appeared quite natural. The tongue being cut through, the pharynx was separated from its connexions with the spine. Its interior surface was very red. A bougie introduced into the œsophagus, passed only to the depth of an inch and a half, beyond which it could not be inserted. The thorax and abdomen were then laid open, and the whole of their contents, together with the diaphragm, removed. The stomach appeared natural. A large bougie passed from it up the œsophagus, to within three fourths of an inch of the former, but the portion of the tube between them appeared obliterated. The trachea being laid open in front, the mucous membrane exhibited much vascularity, and about half an inch or less above its bifurcation into the two bronchia, a small orifice, one twelfth of an inch in diameter, was observed, through which a probe passed at once into the lower or ventricular portion of the œsophagus. The œsophagus was found to taper gradually from the cardia to its upper orifice in the trachea, where it was only of the size mentioned, and the smallness of the aperture had prevented the passage of the bougie through it. The upper or pharyngeal portion of the œsophagus was of larger diameter than the ventricular, and terminated in a cul de sac. The larynx and lungs, natural and healthy. The right auricles, filled by a polypous concretion, and the foramen ovale still pervious. It had the appearance of a net work, through the interstices of which, the blood of the auricles could be easily pressed. The intestines were much distended with air.

As the appearances on dissection sufficiently explain the symptoms previous to dissolution, I shall only remark, that the abdomen was much distended many days before death,

and that much air was discharged by anus. As no food could find access to the stomach, which by fermentation might have afforded air, I am led to suppose, that during the efforts of deglutition, air from the trachea must have been swallowed, and this is corroborated by the mother having been conscious, that air was passing into the stomach.

The foregoing case, though of no practical importance, may be interesting, as presenting a species of malformation which I have not found described in any work I have perused, I have therefore sent it for insertion in the Medical and Physical Journal.

ART. IV. *A Case of Malformation of the Urinary and Genital Organs.* By CHARLES DRAKE, M. D. Physician to the New-York State Prison. (With a Plate.)

THE subject of this case was, in his day, a famous pick-pocket, and spent many years of his life in prison, where he fell under the observation of different medical gentlemen. A tolerably accurate description of the external appearances, with a plate, is given in the Medical Recorder for 1820. He died a prisoner in the state prison of this city; and my situation in the institution enabled me to ascertain the actual condition of the pelvic viscera, and to verify or correct the conjectures that had been formed concerning them, by those who had examined him during his life-time.

Robinson was a square-framed, athletic Hollander, remarkably well formed in every respect, except the malformation in question. He died April 1826, aged 52 years. He appeared to have enjoyed vigorous health until within three months of his death; but had complained much for years past, of pain in the region of the kidney, with a scanty discharge of urine. These symptoms however, it was thought, he exaggerated for the purpose of obtaining an allowance of old Hollands, to which he had an inordinate attachment. For the last few weeks he continually discharged much purulent matter from the parts surrounding the termination of the ure-

ters: indeed, at this time the unnatural excrescence presented an ulcerated, spongy, and phagedenic appearance, when he rapidly wasted, and died hectic. During his health he had always defended the parts from the contact of his clothing, by means of a tin plate, properly adjusted, and which was terminated by a urinal to receive the urine, continually dribbling from him.

Description of the Malformation. The first part that attracted attention in this remarkable malformation was a fleshy mass, situated over the region of the symphisis pubis. It was not unlike, in its general appearance, to the adhering surface of a placenta, and, at the time of the patient's death, measured in circumference at its base, nine inches and three fourths; its highest elevation was about an inch. The ureters having first crossed each other, terminated rather below the centre of this tumour and about half an inch apart. The urine, continually dribbling from these openings, kept the surrounding parts of the tumour in an abraded and inflamed state. The vasa deferentia terminated with patulous mouths at the lower verge of the fleshy mass, where the sulcus, representing the urethra, commences. These openings were as near together as in the natural state of these organs, and had between them a narrow granular elevation, which might be considered a crista galli. From the rami of the ischia proceeded the crura cavernosa penis, on which were directly placed, half an inch below the openings of the vasa deferentia, a glans of ordinary size and form. This glans was placed reverted, with its lower part uppermost, possessing an ample fold of skin below it—the vestige of a prepuce, but devoid of any trace of frenum, and the upper part of the parietes of the urethra deficient, so as to constitute the urethra a mere sulcus, which extended between the risings of the crura up to the verge of the fleshy mass before described. Directly beneath this urethral sulcus, extending back beyond it, lay the prostate gland. A short distance below the openings of the vasa deferentia, in the sulcus, were three or four minute foramina—these were thought to be the excretory ducts of the prostate. Between the peritoneum and the inner surface of

the os pubis, where this bone joins its fellow to form the symphisis, lay on each side a yellow condensed cellular substance, resembling, in some degree, in structure, the vesiculæ seminales, the rudiments of which bodies I have no doubt they were. The vasa deferentia passed under them, and might have communicated with them, but the parts were so altered and condensed by previous attacks of inflammation, that I despaired of tracing the connexion.

The testicles were large and apparently well formed, the scrotum without raphæ, and the anus situated more anteriorly than under ordinary circumstances. In each groin where the spermatic cord passes over the brim of the pelvis, there was a fulness and projection which gave the appearance of herniæ, but which, on examination, proved to arise from the unnatural size of the angles of the ossa pubis, which, instead of forming the symphisis, terminated at this place, leaving a space between the two bones of nearly four inches. As the body exhibited no trace of an umbilicus, the first object on opening into the abdominal cavity was, to ascertain how the fœtus had been nourished in utero. The round ligament was found passing from the fissure of the liver, between the peritoneum and the abdominal parietes, directly into the fleshy mass. From which it appears probable, that the fœtus had not possessed a funis, but had been attached to the uterus by means of this substance, which, in its general aspect, as has been before observed, was not unlike the adhering surface of a placenta.

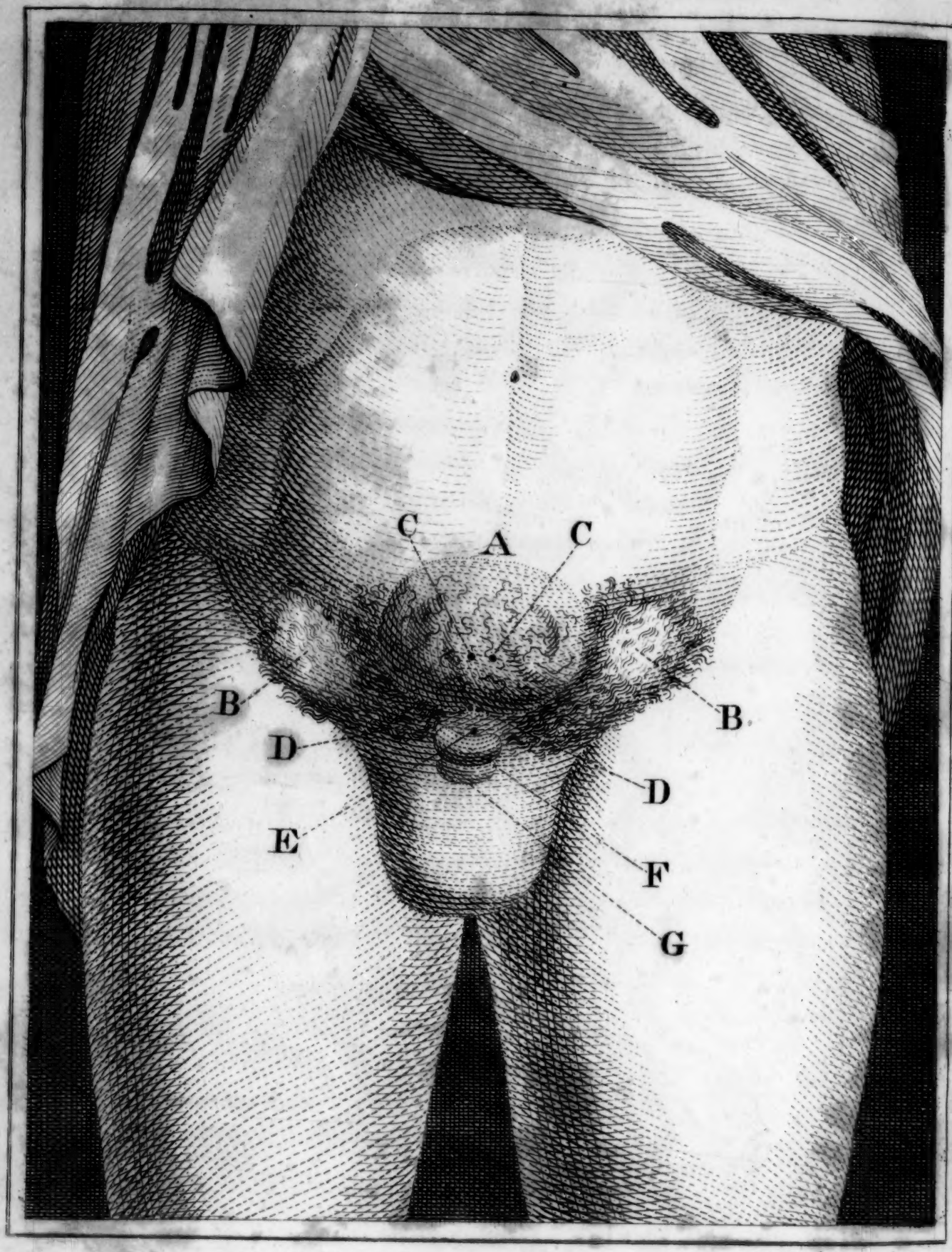
The kidneys were in their natural situation, and the ureters took their usual course across the pelvis, terminating as pointed out above, without the intervention of any sac or bladder. The left kidney and ureter appeared to be healthy in every respect. Not so those of the right side: the natural structure of the kidney was almost entirely obliterated, presenting a tuberculous appearance, with internal ulcerations and purulent deposits. The surrounding parts were greatly thickened and altered in texture, showing the traces of former inflammations. The ureter of this side quite to its termina-

tion, was also much diseased, its coats thickened and of a cartilaginous firmness.

The capacity of the pelvis was less than natural, and the different bones shorter and thicker than in a well formed pelvis. The exact form and dimensions of these parts could not be ascertained, without removing so much of the soft parts as to destroy, in a great measure the value of the preparation; but the following may be relied upon as not varying materially from the truth. The angles of the ossa pubis were separated from each other about four inches. The rami of the ossa pubis and of the ischia seemed to proceed nearly perpendicularly to the tuberosities of the ischia, so that the thyroid foramina must have been smaller than usual, and altered in shape. The superior transverse diameter of the pelvis was five inches; the superior anterior-posterior diameter, four inches; the distance between the tuberosities of the ischia was three inches; between the alæ of the illia posteriorly, two inches; and between the superior anterior spinous processes, ten inches.

On the whole, one would form a very good idea of this singular malformation by imagining the bones of the pelvis separated at the symphisis to the distance of four inches, a fleshy mass placed on the pubic region, which, in the fœtal state, served the purposes of a placenta, and, in the adult, that of a bladder, by giving issue to the ureters, and finally, a glans penis placed reverted, a short distance below with a sulcus representing a urethra, leading from its point up to the lower edge of the fleshy mass where the vasa deferentia open. The other parts were as naturally placed as these arrangements would allow.

Robinson acknowledged that his venereal desires had remained through life undiminished; and, indeed, the appearance of his testicles did not indicate, that the long period of inactivity to which they had been doomed, or, at any rate, the want of any other stimulus than what was supplied by desire, had either diminished them in volume, or softened them in texture.



Sam^l. Maverick

EXPLANATION OF THE PLATE.

A. The fleshy mass.
B B. Protuberances of the ossa pubis.
C C. Orifices of the ureters.
D D. Orifices of the vasa deferentia.
E. Orifices of the prostate ducts.
F. Glans penis.
G. Vestige of prepuce.

ART. V. *Account of a Case of Concealed Hemorrhage in delivery.* By Dr. ORRIN WRIGHT, of Pittsfield, Massachusetts.

A SHORT time since, at evening, I was called to visit Mrs. C. aged thirty-six, the mother of six children. The family were in great alarm. Mrs. C. had a deathly paleness of countenance, a cold sweat covered the surface of her body, her breathing was laborious, pulse scarcely perceptible at the wrist. She was however able to give the following relation. She had expected to be confined in three or four weeks, had no recollection of any fall or hurt, had not been sensible of any motion of the child for thirty or forty hours, felt an unusual faintness when she rose in the morning, which symptoms had been growing worse through the day. During the last twenty-four hours she had been constantly increasing in size, so that when I arrived her abdomen was tense and much enlarged. She had fainted twice before my arrival, a circumstance that never occurred to her before, though of a delicate constitution. She had experienced no sensation like labour pains, but a uniform unremitted pressure, till at the present time she thought the child must be born, but observed, "I feel strangely; I may be in travail and may be dying." She complained of a load and distress at the stomach, caused by her supper, which she ate in hopes of relieving her faintness; it consisted of materials almost indigestible for a person in health.

Upon examination, I found the membrane was filled by the waters and protruding externally, and the head in a natural

position presented for delivery, and was born within fifteen minutes after I saw her, without any increase or diminution of pain. Along with the dead fœtus, was also expelled a coagulum of blood, weighing, as judged, seven or eight pounds, with the placenta entire, and with the appearance of having been some time detached. Besides the above enormous mass of coagulated blood, numerous smaller masses, with a quantity of fluid blood escaped at the same time. The usual means for suppressing hemorrhage were resorted to and with success, so that very little blood was lost after the first moment of delivery. She complained of faintness, distress at the stomach, violent pains in her limbs, and was very cold. Pressure was applied to the abdomen, laudanum, ether, and cordials were administered to no purpose—she expired in about three hours after the birth of her child. Her chance for life was evidently lessened by the loaded and oppressed state of the stomach—the system not appearing to be in the least affected by medicines given, or means used to restore animation.

It appears evident, that in the above case, the separation of the placenta occurred, in part at least, thirty or forty hours previous to child-birth, yet not one drop of blood escaped externally, until the birth of the child. Is it not probable, that the separation of the placenta commenced in its centre? And when its detachment was complete, what but the constant and entire occupation of the passages by the head of the fœtus, the membranes, and the coagulum, prevented the escape of blood?

Art. VI. *Quarterly Report of Diseases treated at the New-York City Dispensary, from the 15th June to the 15th Sept. 1826.*

Anasarca	6	Menorrhagia	4
Aphthæ	9	Mastitis	3
Amenorrhœa	29	Nebula	5
Abscessus	6	Otitis	3
Ascites	1	Ophthalmia Simp.	40
Abortio	1	——— Chron.	5
Aneurisma	1	——— Tarsi	6
Bronchitis Chron.	17	——— Purulenta	3
Catarrhus Simplex	48	Orchitis	6
Cephalalgia	23	Obstipatio	62
Cephalea Nauseosa	18	Otirrhœa Purulenta	2
Cholera	34	Pleuralgia	36
——— Infantum	30	Pneumonia	24
Cardialgia	16	Pleuritis	20
Colica	6	Pertussis	41
Cachexia	1	Parotitis	8
Contusio	75	Phthisis Pulm.	30
Caries	1	Phrenitis	3
Contorsio Spinæ	1	Paralysis	11
Cystitis	1	Porrigo Scutulata	2
Dyspepsia	29	——— Favosa	17
Delirium a Potu	10	——— Larvalis	4
Dentitio	8	Plethora	54
Debilitas	18	Psoriasis	10
Diarrhœa	108	Phlegmon	10
Dysenteria	85	Prurigo	2
Erythema	1	Paronychia	3
Erysipelas	10	Periostitis	1
Epilepsia	4	Prolapsus Uteri	1
Epistaxis	2	——— Ani	2
Enteritis	6	Rheumatismus Acut.	12
Febris Simplex	65	——— Chron.	73
——— Remittens	23	Rubeola	16
——— Intermittens	64	Surditas	6
——— Typhus	6	Syphilis	39
Fractura	10	Scrofula	5
Fistula in Ano	2	Splenitis	1
——— Lachrymalis	2	Stremma	12
Gastritis	1	Scabies Inveterata	9
Gastrodynia	62	——— Vesiculosa	36
Hæmoptysis	4	——— Pustulæ	12
Hepatitis Chron.	12	Strophulus Confertus	4
——— Acut.	2	——— Intertinctus	1
Hæmorrhois	4	Scarlatina Simplex	2
Herpes Circinatus	1	Staphyloma	1
Hepatirrhœa	2	Scorbutus	2
Hydrops	10	Tumor	11
Hydrocele	1	Tinea Ciliaris	1
Hysteria	3	Tonsilitis	10
Ischuria	1	Urticaria	3
Icterus	3	Ulcus Cornæ	2
Impetigo	6	——— Chron.	51
Leucorrhœa	7	Ustio	10
Lichen Simplex	20	Urethritis	32
——— Pilaris	7	Vermes	41
——— Circumscriptus	2	Vulnus	34
Laryngitis	1	Varicella	6
Lithiasis	2	Variola	5
Luxatio	2	Varioloid	8
Marasmus	3		

Total 1795

The diseases prevalent at the date of our last report were those arising from derangements of the chylopoietic viscera. Inflammatory affections were not uncommon, but these gave way, gradually, to the disorders generally attendant upon the warm season. Intermittents of a mild character began to make their appearance during the first weeks of July—these have been increasing in number, up to the present time. In proportion to their numerical increase, they at the same time become more complicated in their symptoms, assuming a remittent character, and exhibiting a tendency to a continued form, until finally, about the early part of September, the combination of symptoms and their disposition to pass and repass from one to the other, rendered it difficult to draw a line between them.

The remittents of which we speak were, for the most part, sudden in their invasion. The patient, without any preparatory symptoms, would be attacked with a chill, followed by a violent febrile paroxysm, accompanied with nausea, restlessness, lassitude, and prostration. This stage would last from ten to twelve hours; at the end of which time, when we have generally first visited them, the disease has been characterised by redness and flushing of the face, with an expression of weariness and distress, red, swollen, watery state of the eye—moist tongue, with white fur in the center, tinged with yellow toward the fauces, edges clean—sense of great oppression and sinking under the xiphoid cartilage, very distressing and giving rise to a sensation as if a ball were rising in the œsophagus—pain upon slightest pressure between the lower extremity of the sternum and umbilicus—no tenderness in the region of the liver—violent pain over the eyes and about the occiput, shooting with much acuteness along the spine to the loins, where it was most distressing. General weariness, but more particularly feebleness in the knees—soreness in every joint—general surface dry and hot—dry cough, huskiness of the voice, anxious and irregular respiration—extreme thirst—breath fetid. Pulse full, scarcely compressible, regular, and seldom over 90. Total deprivation of appetite, and great torpidity of the bowels—wakefulness, but no delirium. During

this stage there was no chill, or even a sensation of cold. The paroxysm would increase in violence about noon, and continue at its height until the evening—during this time we have observed, that there is either an indisposition to answer any question, as if it were too much labour, or there has been an extreme degree of impatience and restlessness when addressed. There was no perfect apyrexia, but an evident remission in the morning. This stage of the fever would last three, four, or five days, if the remedies employed did not produce a solution of the disease. If a change for the better did not take place at this time, there would suddenly occur depression, listlessness, coma, and often aphonia—a feeble and quick pulse—dry, parched, and shrivelled tongue—and a variable state of the skin. At one time, the feet, hands, and tongue were cold, while the surface of the body would be of the natural temperature. This would suddenly change to flashes of heat pervading the whole body, and following each other in quick succession, about midnight, perhaps, a warm perspiration would ensue, when a remission would take place and last until morning. During the whole of these successive changes, the patient would lie on his back in a comatose state—respiring freely, and but little quicker than natural. At this crisis, if in the course of twenty-four or thirty-six hours, a free and warm perspiration took place, the tongue became moist, and the pulse was lessened in frequency, the patient would articulate freely, and become anxious to change his position. Convalescence followed, with, perhaps, a disposition for a little febrile action every alternate day, until recovery was firmly established.

These symptoms were sufficiently common to characterise the disease, but there were others occasionally occurring, such as acute pains confined to the breast, eyes, spine, &c. Spontaneous vomitings were also not unfrequent. In one or two cases, the pains in the joints were so great and so strongly simulated acute rheumatism, that it was difficult, at first, to come at a correct diagnosis. We have also seen a case, where after the first paroxysm, painful enlargements of the inguinal glands took place, the surface to a considerable extent had a

bright erythematic appearance, at the same time the leg, over the left tibia, became erysipelatous.

A few cases of petechiæ ensuing, after the fifth or sixth day of the fever, have been met with. One of these was the case of a patient of the Dispensary. She had been complaining for a week before she applied for relief. She was first seen on the 23d of August, and was then labouring under great pain in the head, back, and right side. Pulse 140. On the 26th, petechiæ were observed to some extent upon the body. 29th, these disappeared, and a recurrence of the pain in the right hypochondrium took place. A blister was applied, and free purging directed with benefit. On the 1st of September she was convalescent, when she was put upon the use of tonics, and discharged as cured on the 8th.

Amongst the anomalies we may also mention the following cases; the first as being rare, the second as showing a peculiar seat of irritation.

A coloured man, aged 35 years, was attacked with dysentery six or eight weeks since. He took a cathartic, which operated so freely that he was induced to take some laudanum. The catharsis was suddenly checked, since which time he had been affected with slight pains about the umbilicus. On the 9th of September he applied at the Dispensary for relief, and was visited in the evening. There was, at that time, pain about the loins and umbilicus, extreme tenderness of the abdomen—moist and furred tongue—pulse about 90, regular and compressible—skin hot and dry—*left testicle swollen and painful.* From an examination of the case, it proved to be an intermittent of the tertian type, somewhat anomalous in not having a chill after the first paroxysm. *Coincident with the accession of fever on the alternate day, his testicle became tumid and painful; during the imperfect apyrexia of the intermediate day these subsided.* Another singularity in this case was, that *either testicle became affected*, but at no time were both *simultaneously so.* There was also, pain shooting down from the loins in the course of the spermatic cord. He passed his water freely, and did not labour under any affection of the urethra.

The other case referred to was that of a coloured fireman of one of the steam-boats. He was first seized with pain in the back of the head, spine, and loins, giddiness and nausea. His tongue was moist and slightly furred—pulse regular and compressible. He had perfect apyrexia every third day. The regular paroxysm had its accession with slight chill, which was immediately followed by intense pain in the spine. So great was the distress that the slightest movement of the body excited a tendency to syncope and universal tremor. His appetite was but little affected, and the pulse in the height of the paroxysm did not exceed 85. A brisk purgative and stimulating liniments were first directed, and on the first apyrectic day after our visit, he was put upon the use of quinine. Without any other remedies he returned to his business in less than a week.

In noticing these fevers as particularly as we have done, we have in view the identification of our typhus, remittent, and intermittent fevers. Dr. Rush has observed, that "there is but one fever." Without assenting to his proposition, we have been convinced that there is less specific difference in fevers than is generally supposed, and this opinion has received strong confirmation from the writings of Dr. Armstrong. The first author founded his doctrine upon the variety of fevers having but one proximate cause—a disease of the sanguiferous system. However ingenious his arguments may appear, we think that many of them are rather speculative than true. That typhus, remittent, and intermittent are, as Dr. Johnson observes of bilious fever and dysentery—"branches of the same stem," we believe, from the similarity of the combination of symptoms—from the facility with which they pass from one to the other—from their originating in the same districts, and arising, as we think, from the same causes.

That the different types of these fevers pass from one to another, must have been observed by most physicians. We have already mentioned that this occurrence was noticed during the present season. In several cases where the patient had laboured under a fever, which in its height had no apyrexia, or only a slight remission, we have observed that after

the most violent symptoms had been reduced, or in other words, that when the system had been enabled to rid itself in a measure of the remote cause and its consequent excitement, thereby remaining less affected by its action, that then the small portion of the morbific cause retained was only capable of producing a paroxysm every alternate day. This was particularly striking in a few cases. On every third day there would come on, about noon, an accession of headache, lassitude, and slight fever, after a little shivering or perhaps only a coldness of the extremities. In one case when this took place, the patient, in the first stages of the disease, had for three days a scarcely perceptible remission.

A case of a more malignant character which occurred in Banker-street, was in the first instance a pure remittent. In the course of a few days it became one of the strongest marked cases of typhus. Here the exciting causes, which in a less degree would have probably produced an intermittent, existing in the most concentrated form, gave rise to a remittent, but the patient being still exposed to the original malaria, united, at the same time, to the effluvium generated about and thrown off from the body, the remittent became of a more malignant character, and assumed the form of typhus.

The combination of symptoms and disposition to pass and repass from an intermittent to a remittent, could not escape the notice of Cullen; hence he only distinguishes them as intermittents with *apyrexy*, and intermittents with simple *remission;* and although he admits that these may become *continued*, or, being continued, may discover a tendency towards the two former, still he arranges them under different heads, making the specific characteristic of typhus not as particularly arising from a difference of symptoms, but from "the nature of the epidemic prevailing," and from its "being occasioned by human contagion." But we are not able to bring ourselves to a belief in a difference of cause of these two classes. We are aware that jail fevers may be adduced as proofs of a specific origin in typhus, differing from that of remittents and intermittents. A few remarks may be hazarded upon this subject. It is generally at the time when sporadic cases are

met with in the city that these malignant prison fevers become prevalent. It is granted that the remote cause of the first is miasm, arising from terrestrial exhalations, produced by a peculiar combination of heat, moisture, &c. or the effect perhaps of meteoration. These exhalations dissipated through the atmosphere, are received into the system, and called into action by certain exciting causes. The inhabitants of a city are all, more or less, liable to suffer from an epidemic. The occupants of a prison, inspiring the same atmosphere, are no less liable to these effects ; but in them the danger is increased tenfold by the additional concentration of foul effluvia, arising from their being confined in crowded and ill ventilated apartments. Hence, while both suffer from the common miasm, the effect on the latter is heightened by the local causes immediately surrounding them. The seeds of the fever are the same in both ; it is only the nature of the soil and the compost (if the expression may be used) that differ.

It may be also doubted, whether this fever is capable of being propagated by personal contact. Typhus, like yellow fever, may be considered as merely infectious, that is, originating in certain districts, rendered impure by foul exhalations under a certain combination. That the latter is not personally contagious is, at this day, scarcely doubted, and if the same cool reasoning from facts and extended observation, were employed in the investigation of the former as has obtained in the latter, typhus would be divested of the terrors which are now attached to its name. The cases which we have seen adduced as proofs of the personal contagiousness of typhus, may be satisfactorily referred to a common predisposing cause. They have principally been nurses who have been breathed upon or exposed to the offensive odours of a sick room. But is it necessary to call this contagion ? They have already been exposed to the same remote causes as the patient who is lying sick, and the poison is only called into action by an exciting cause, which is thus presented to them. If this exciting cause were the only one producing typhus, then the position would be well established

—but is it not the case that other exciting causes are equally as powerful? Will not confinement, bad diet, and foul habitations, with heat, moisture, or any miasmatic cause, produce the same effect? Whence then is the evidence of contagion? If it needs more convincing proofs than those which have been produced, that typhus universally, or even generally originates in human effluvia, or propagates itself by personal contagion, we can easily be brought to believe in the identity of typhus, remittent, and intermittent fevers—seeing at the same time, that their origin may be referred to the same remote causes.

Treatment. The early and repeated use of emetics were found beneficial. Large quantities of bile were thus discharged, and the pains in the head and loins were much relieved. After the first emetic, free purging with senna and neutral salts, or scruple doses of calomel were directed. The matter thus discharged was tar-like and very offensive. This purging was afterwards kept up by a solution of the sulphate of soda with tartrite of antimony. This medicine likewise kept up a free perspiration. On the fourth or fifth day, if the pains in the head, back, and loins had subsided and there had been a natural sweat, the quinine with Dovers' powder reduced the quickness and irritability of the pulse and restored the balance of circulation, thereby rendering the skin moist and natural.

If a solution of the disease did not take place on the fourth or fifth day, and there was much pain about the epigastrium, recourse was had to blisters, and reliance was chiefly placed upon calomel administered in large and frequent doses. At this stage also, one, two, or three vomits, given on as many successive days, until the pain in the head was relieved, were never productive of any bad effects. The usual diaphoretics were used, but their effects did not seem productive of much good until the stools began to lose their offensive odour, and slimy, dark appearance. Bleeding at no stage of the disease was marked by any advantage. It would relieve the head at the time, but in two cases where we bled

(and these we will observe exhibited the strongest marks of congestion) we think that the result was a more protracted, and less manageable fever. At all events, in every other case we succeeded in producing a more speedy recovery. The result of our observations is, that great visceral congestion was principally occurring, and that those remedies which unloaded the stomach and intestines, and kept up a free discharge of bile and accumulated abdominal secretions, generally were most strongly indicated. The torpidity of the bowels was a troublesome accompaniment of these disorders. To one woman we gave, in twenty-four hours, four doses of a scruple each of calomel, followed two hours after taking the last by eight ounces of the infusion of senna with an ounce of neutral salts; and in the evening of the same day, by a mixture containing of the ol. ricini ℥i. ol. croton gtt iij. and copaiba ʒi.—all of which produced, in the course of the night, only three stools. These resembled tar in consistence and colour, and it was only after keeping up the discharge for three days that the fever began to subside, or perspiration to appear.

During convalescence the bitter infusions seemed to answer every purpose, but when there was a little febrile action occurring and taking on an intermittent character, these did not appear as successful as quinine. We have seen salutary effects from this medicine when combined with Dovers' powder. The combination has produced free and refreshing perspiration, when, where the latter has been used alone, no advantage was perceived. This may be attributed to its giving tone to the stomach, and thereby enabling the Dovers' powder to exercise its due action upon this organ, and through it upon the brain and nervous and sanguiferous system.

Dysentery. The usual proportion of cases of this distressing complaint has been met with, accompanied by its general symptoms. From what we have observed, we are convinced that dysentery may, in a great majority of cases, where there is no organic lesion, be more easily managed

than many diseases accompanied by less violent symptoms. If calomel were indicated in this disease alone, it would be considered as one of the most valuable remedial agents under the control of the physician. Other cathartics, with the host of astringents, carminatives, and opiates, only smother the flame, either to burst forth with tenfold violence, or silently but surely to waste the miserable patient to a living skeleton, and finally sink him in the grave. But in the use of this medicine an inert practice will avail but little. One half of the time may be saved in producing a cure, by exhibiting it largely and freely. In such doses it is not by its free purging that the sole benefit is received, but there is something in its action allied to a sedative effect. It is from a feeling of this kind that Dr. Johnson draws his eloquent description of its effects in his own case. And in this he is not singular, for in more than one instance where we have given scruple doses, it has been suspected that an opiate has been administered. In no other complaint have we seen, after the use of a single remedy, a change of feeling so sudden and agreeable.

Pursuing this plan, and recollecting at the same time that it is a "febris introversa," requiring a free and moist state of the skin, we have used the Dovers' powder with much benefit to that effect. Pursuing this plan, we have not lost a single patient, where there has not previously existed a disorganized liver or ulcerated intestines.

In infants the same principle has governed us, and the advantages of the practice can only be conceived of by those who have had an opportunity to compare it with the old practice of *chalk mixtures* and *mint water*, or the equally futile practice of purging with neutral salts until the nature of the discharges became altered—which is not very likely to happen before death prevents their further administration. The general plan of treatment has been to administer to children, from two to four grains of calomel, (according to the age of the child) for four successive hours. This generally produces three or four offensive discharges. An alleviation of the distress most frequently takes place during the first or se-

cond hour, and the child will fall asleep bathed in perspiration. In the course of five or six hours, castor oil is administered, and in a great proportion of cases no farther treatment is required, except perhaps, directing a little Dovers' powder in combination with magnesia and pulverized cinnamon. At the end of two or three days, although relief may have been afforded, still, if the stools are occasionally mucous and streaked with blood, recourse is again had to calomel. In the many adult and infantile cases in which we have given large quantities of calomel, we may safely say, that we have not seen a single instance where any evil effects have arisen from its use. Salivation is of rare occurrence, and in such a case depends upon idiosyncrasy more than upon quantity. Indeed, the worst case of the kind which has fallen under our observation was produced in a man of intemperate habits, by the usual prescription of calomel and jalap. In several instances there have occurred most severe prolapsus, the intestine presenting itself to some extent, accompanied by much heat and redness. Cold water injections have proved most decidedly serviceable. In the course of five or six hours and after the use of perhaps twice the number of injections, the intestine becomes pale and gives less pain to the little sufferer. A continuance of this application, with the addition of some vegetable astringent, soon produces a cure.

During the early part of this quarter, there were many inflammatory diseases met with. Pneumonias were not uncommon; but they were not of that acute character which always take place earlier in the season. These in almost all the cases were subdued by brisk and plentiful catharsis, antimonial solutions, and blisters. Rheumatic affections about the thorax were not unfrequently appearing—the same remedial means, with the exception of the blister, were resorted to successfully. Inflammatory disorders of the glands of the neck and fauces were not uncommon. They seldom required blisters and submitted readily to the senna infusion with antimony, preceded however by free emesis when deglutition or respiration was painful. Pertussis has been met with through

the whole season. The worst cases have been those which were complicated with dysentery. Several of these we have seen; in such, by administering calomel as if they were simple cases of the latter, the cure of both has been coincident. Mutually becoming exciting causes to each other, they were therefore more obstinate in their recovery than if either disease had existed separately. Among the cases of scarlatina, several have suffered at the same time from pertussis. These have been generally of the most severe character,—but they have finally submitted to a strict antiphlogistic treatment.

ART. VII. *Case of Amputation of the Arm at the Shoulder Joint.* By JOHN WAGNER, Surgeon, Member of the Royal College of Surgeons, London, and Teacher of Anatomy, in Charleston, South-Carolina.

GUY, aged 45 years, the servant of Dr. James M'Donald of St. Andrew's parish, was bitten on Sunday, 28th of May, 1826, at his master's plantation, by the species of snake familiarly known as the water rattle. He was employed at the time in taking fish in shallow water, with what the negroes call a churn; and the snake, in springing from a log on which it lay, struck him in the fold of the elbow joint of the right superior extremity. He immediately requested a boy who was with him, to apply a ligature above and near the part wounded, which, upon his arrival at home, the superintendant of the plantation removed, and placed another around the limb, as high up as the axilla would allow, embracing a large portion of the deltoid muscle, above its insertion into the os brachii. During the night, this ligature caused intense pain, great anxiety, and some fever. It remained on from one o'clock, P. M. on Sunday, to twelve o'clock, M. on Monday, (twenty three hours) when it was removed by his master, who found him, at this time, suffering comparatively no pain, and little or no fever. The limb throughout was cold, devoid of sensibility, very much swollen, and the cuticle raised in vesicles over the whole surface; no pulsation could be felt at the

wrist; nor was blood effused upon making free incisions with a scalpel into each of the fingers, nor into the veins at the fold of the elbow joint.

He was brought to town on Monday the 29th of May, from which period until the 8th of June, he suffered but slightly from constitutional irritation, and underwent various treatment by his master, with a view of restoring sensibility and circulation in the limb. I visited him upon that day, (8th of June) for the first time, and found the superior extremity of the right side in a state of complete mortification, from the fingers to the situation of the ligature, near the insertion of the deltoid muscle. No sensibility, no warmth, no pulsation in the arteries, either below or above the elbow joint, or even in the axilla could be detected: the deltoid and the muscles about the joint were in a state of considerable tumefaction: he was suffering no pain, had no fever, and as his constitution was good, I advised immediate amputation at the shoulder joint. To this he at once consented, and expressed his conviction of the inefficacy of removing the limb short of that part.

June 9th. (Twelve days after the accident.) The patient walked with the arm supported in a sling, this morning at an early hour, from his lodgings in Elliott-street, to my private hospital in Broad-street, a distance of several hundred yards, without fatigue. In the course of the morning, he took one drachm and a half of laudanum in a wine glassful of water, and at twelve o'clock submitted to the operation, which was performed in the following manner.

He was seated upon a bench of convenient height, and reclined a little to the left side, against the breast of one assistant, while the limb was supported by another, and separated about three inches from the trunk. My friend, Doctor Campbell, compressed the subclavian artery upon the first rib, by means of a key behind the clavicle; and standing myself at the side and somewhat behind the patient, I embraced within the grasp of the thumb and fingers of my left hand, the deltoid muscle, and with a single sweep, from heel to point of a long catling, I formed a flap by raising that muscle from its

insertion into the os brachii, to its origin in the acromion process of the scapula, which being held back by an assistant, exposed the capsular ligament of the joint; then seizing the limb with my right hand, I passed the catling rapidly with my left, from point to heel, between the acromion and head of the os brachii, through the joint, and giving its edge a slanting direction towards the bone, formed a flap from below, and removed the limb. The axillary artery was pervious, and freely threw out blood when the pressure was removed behind the clavicle,—it was the only artery which required a ligature,—the muscles were of a pale colour, flaccid, and their vitality apparently diminished,—the flaps were, however, brought together by strips of adhesive plaster, and the dressing finished with a light compress and roller bandage. He bore the operation well,—lost little blood, and was put to bed after repeating the same dose of laudanum.

Six o'clock, P. M. Pulse 120—has no heat of skin or thirst, and expressed himself as being very comfortable;—there was oozing enough from the wound to soil and moisten all the dressings, but not alarming.

Saturday, six o'clock, A. M. Has passed a good night; had some sleep; and, with the single exception of increased frequency in the pulse, his constitution does not appear to suffer from the operation.

Six o'clock, P. M. Is still very comfortable; has no fever, and is doing well.

Sunday, ten o'clock, A. M. Had a good night; no fever; takes light nourishment, and is able to sit up in bed to have the wound dressed, which being exposed, presented the deltoid muscle *in a sloughing condition*, and *the wound*, generally, exhibiting *a very unfavourable aspect*. The adhesive strips were laid aside, and pledgets of charpie, moistened in the nitrous acid lotion,* were insinuated between the flaps, and the whole stump covered with the same. His bowels directed to be opened with castor oil; in all other respects is doing well.

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* ℞. Acid. Nit. dilut. gtt. L. aq. distill. lb. ij. M. ft. Lot.

This plan of treatment was continued three weeks, during which time, on the seventh day after the operation, the ligature came away, and the sloughs were all removed, and his general health was improving daily. The stump now presented an open, healthy, granulating wound, with a complete exposure of the glenoid cavity of the scapula, still covered with its cartilage, and a small portion of ligament attached to the acromion process,—the cut extremities of the nerves which formed the axillary plexus were observed, in particular, to throw out numerous granulations of a white colour. The wound was dressed from this time, (third week) simply with dry charpie; it healed altogether by granulation, and was completely cicatrized at the end of the third month. A small portion of the acromion process was thrown off by exfoliation, during the fifth week.

Remarks. In performing amputation at the shoulder, two advantages present themselves to the surgeon, as soon as the joint is opened, viz. the facility of comparing the extent of the two flaps, and adapting them to each other, by elevating the head of the bone above the acromion process; and the ease with which the axillary artery is commanded, by passing the thumb into the joint, and compressing that vessel between it and the fingers, in the axilla; indeed, I am half inclined to think, that an expert operator might form his flap of the deltoid muscle, open the joint, and dislocate the head of the bone so dexterously, as to require no other arrest to the circulation but what can be timely made upon this artery, in the proper stage of the operation, by a judicious assistant.

It is the general impression of those who are conversant with the subject in the country, that the bite of the water rattle snake is not destructive of life, and that the loss of this negro's arm may be wholly attributed to the officious application of the ligature, upon the limb, for the space of *twenty-three hours.* How long a ligature might be applied around a limb, so as to suspend the circulation, without destroying its vitality, is not in my power to state, but I may cite the case of a sailor, who came under the care of Dr. Campbell, in the Marine Hospital of this city, to show that a much less time

may endanger the life of the part. This man's arm had been tied behind his back, by means of a cord, above the elbows, and in that condition was kept in the hold of the vessel *thirteen hours.* When he was admitted into the hospital, he had lost all sensibility, muscular power, and warmth in the limbs, and no pulsation could be felt at either wrist, so that there was, at first, serious apprehension of mortification; but by a judicious application of remedies, and especially friction in the course of the veins, he recovered the use of both arms in three months.

The weather was intensely hot upon the day of the operation and that which succeeded it, and it may be, that if the flaps had not been so nearly approximated, and the dressings made still lighter, the vitality in them might have been retained; but I am of opinion myself, that no precaution would have saved them; though in attempting the flap operation, I was justified, inasmuch as nature was allowed an opportunity to recover her powers, or to finish the work of separation precisely at the part where her necessities demanded it; and the result has proved the opinion correct.

Upon dissection, the muscles of the whole limb were found in a state of mortification; those of the arm, however, could all be recognised individually, though in a very altered condition. The brachial artery was pervious as low down as its division into ulnar and radial, both of which were much contracted, and closed an inch below their origin, but became pervious again, until lost in the mortified mass of the fore arm.

The acid lotion, besides its good effect of destroying fœtor, is certainly the most efficient means, and the quickest, of removing sloughs, which I have ever employed; and the dry charpie, the most simple, and at the same time, appropriate dressing, for a healthy granulating wound, keeping the secretion of good pus just at the point necessary to moisten the surface, and allow the part to heal.

It may be necessary to explain my reason for using the laudanum, with so liberal a hand, before and after the operation. The practice is not my own, but I am indebted for this, and

many other suggestions, to my enlightened and very skilful friend in surgery, Dr. Benjamin B. Simons, whose success has proved its advantage, in lessening the constitutional irritability of the muscular fibre in the negro, who is so prone to tetanus, in this climate, after serious operations.

The absorption of cartilage, from the glenoid cavity of the joint, like the production of granulations from the axillary plexus of nerves, added great interest to the healing of this stump; for as soon as the sloughs were all removed, we had an opportunity of witnessing the beautiful process which nature instituted, in adapting herself to the exigencies which surrounded her. The part no longer useful as a joint, is made to exchange its smooth, white, dense, and elastic covering, for one of a different character; and while the absorbents remove the cartilage in patches, the bone is seen to throw out granulations, so nearly resembling those from muscle, that but for situation and somewhat paler colour, they could not be distinguished. At the end of six weeks this process was completed, and the whole surface of the wound was so uniformly covered with granulations, as not to present any difference whatever.

The contraction of the cicatrix is so great as to present the appearance of a very trifling wound.

REVIEW.

ART. I. *An Epitome of Chemical Philosophy; being an extended Syllabus of the Lectures on that subject, delivered at Dartmouth College; and intended as a text book for Students.* By JAMES FREEMAN DANA, M.D. Concord, N. H. 1825. 8vo. pp. 231.

THE rapid advances which have been made in chemistry during the present, and the latter part of the last century, have astonished its most sanguine cultivators. It is not more than fifty years since that scientific effort was chiefly directed to the investigation of subjects connected with natural philosophy, and it was supposed that these were thoroughly examined and satisfactorily explained. But its boundaries have been gradually encroached upon, and at the present day, it is confined to very narrow limits. Many of the theories of the philosophers have vanished before the scrutiny of the chemists, and the rigid investigations of the laboratory. Natural philosophy is content with a notice of the phenomena of bodies in mass; but chemistry descends to the constituent atoms of these bodies, and by determining *their* nature, enables us to study, with greater precision, the general laws by which they are influenced.

In noticing the importance of this vast and interesting science, we can scarcely pledge ourselves to assign its proper limits. If the different natural sciences have been correctly compared to a circle, chemistry is the centre from which light is radiated in all directions. We may scrutinize each degree of this circle, and we shall find it, in some way or other, influenced by this wonder working-science. The botanist cannot proceed a step in examining the phenomena of vegetable

physiology, without a reference to the laws of chemistry;—the mineralogist can scarcely settle the name of a single mineral without the assistance of agents furnished in the laboratory;—and the theories of the geologist rest upon a very feeble foundation, if opposed to the doctrines which have been established by chemical investigations.

The arts also, have been signally improved by discoveries in chemistry. We shall not stop to particularize. In every workshop and every manufactory we see the practical application of principles which were developed in the laboratory of the chemist, and each successive improvement is but another proof of the benefits which this science confers upon the arts. Great discoveries have seldom been accidental. They have generally been the results of profound thought, intense study, and laborious investigation; and without the exercise of these, we may wait in vain for that perfection of art which our race is yet destined to witness.

The remarks which we have made upon the relations existing between chemistry, and the natural sciences and the arts, apply with equal force to medicine. Medicine is indeed one of the departments of natural science, as much superior in importance, as is man to the organized beings and inorganic masses by which he is surrounded. We need only refer to the daily contributions which chemistry is making to medicine, to prove its utility. The animal, the vegetable, and the mineral kingdoms are, by its means, laid open to the physician, and he selects from each the most important remedial agents. It is true that chemical theories have often been improperly employed in the explanation of physiological and pathological phenomena, but the same may also be said of all the other theories which have, age after age, appeared, and have again been discarded. But it cannot be denied that the operation of many medicines, and the performance of many functions, can only be explained upon principles purely chemical.

There is another consideration which places, in bold relief, the importance of chemistry to the physician. The science of juridical medicine or medical jurisprudence is, at the pre-

sent day, receiving distinguished attention from enlightened physicians in all parts of the world, and no person should be allowed to enter upon the responsible duties of a practitioner, without some knowledge of its principles. Important cases may occur, in which the reputation of the profession is committed wholly to his keeping, and upon the manner in which the trust is discharged, will depend its elevation or debasement. How much the correct discharge of these duties depends upon accurate chemical knowledge, those who are in the least familiar with the subject, must be fully sensible. Is the physician called to a case in which poison is suspected to have been administered, for the purpose of wilful murder, how great is his embarrassment if ignorant of the means by which the substance is to be detected, and the guilt or innocence of the suspected individual established. And what remorse must he suffer, if through his ignorance and neglect the innocent should perish or the guilty escape?

But this is not all;—medicine is a liberal profession, and its votaries should be inducted into all the branches of learning which have the least bearing upon its principles or practice. Whatever has a tendency to sharpen the perceptions or expand the mind, should engage a portion of their attention. Were these the only claims which chemistry could urge, they would be sufficient to give it a place in the round of medical study.

Notwithstanding all this, it is somewhat surprising that so little importance should be attached to chemistry as a part of medical education, by some whose reputation in our profession gives their opinions an undue weight. This is an idea which originates either from a total ignorance of the science, or from an incorrect notion of the manner in which medical education should be conducted. Others affect to despise chemistry as well as the other branches of natural science, considering them beneath the notice of the practitioner. Such persons remind us of the ephemeras described by Franklin, who, from the short routine of their own existence, vainly imagined that the sun was but of a day, and as it faded from their view, its light was extinguished for ever.

It would be a waste of time to attempt the refutation of an

opinion, which, in this enlightened age, can never gain currency. The good sense of the profession has settled the question, and we find that chemistry is regularly taught in all the medical schools, and that a knowledge of it is necessary to the attainment of professional honours or professional privileges.

Before noticing particularly the work whose title is placed at the head of this article, we propose to take a brief view of the origin and progress of chemistry in our own country; of what has here been done to extend its boundaries, or increase its usefulness. In the course of the sketch, we shall seldom have occasion to record brilliant discoveries, or very important series of investigations. Indeed, until the opening of the present century, chemistry was but imperfectly known, much less diligently cultivated. But though we cannot share the glory of having given birth to any of those who contributed so much to its advancement, during the last century, we have, within a few years, made several important additions to it; and perhaps at the present day, there is no country in which chemical knowledge is more extensively diffused than in our own.

Electricity, which is now allowed to be the most powerful of all known chemical agents, owes its elucidation to one of those individuals who have been the wonder and admiration of the world. Franklin, an American by birth, of obscure origin, by the native vigour of his intellect, successfully combatted the depressing effects of poverty and misfortune, and forced his way to an elevated station among the sages and philosophers of modern times. In contemplating his character, we are at a loss whether most to admire, his great exertions to meliorate the condition of mankind, or his ardour in the pursuit of philosophic truth.—And in those splendid experiments which have given him the greatest celebrity, both these objects were happily combined.

Franklin was born at Boston in the year 1706, and he early imbibed a taste for philosophic investigations,—a taste which he cultivated even amidst the cares of a laborious mechanical employment. At the time he commenced his career,

Natural Philosophy was the engrossing object of attention among the scientific men of the day. Chemistry was as yet scarcely freed from the dross of alchemy, and was considered to be a pursuit inferior in importance and in interest. Among other subjects, that of electricity became, at the period just mentioned, a favourite of the European philosophers; and for the purpose of extending their inquiries, instruments were sent to Franklin, who had previously visited England, and was then residing at Philadelphia. He immediately devoted himself to its investigation, and the result was, the correction of many errors which had been entertained concerning its nature, and the complete demonstration of the identity of electricity and lightning. His great experiments in proof of this fact were performed in 1752, and were followed by results which have been of the greatest benefit to mankind. So thoroughly did he investigate this subject, that although seventy years have elapsed, no material fact has been added, nor have the opinions which he advanced undergone the least alteration. It is true that new sources of this powerful agent have been detected, as well as new modifications of its influence, but these discoveries have not in any way lessened the value of those for which we are indebted to Franklin.

In assigning to the discoveries of Franklin their proper degree of importance in the influence which they exerted upon the science of chemistry, we may remark, that it was probably owing, in a great measure, to them, that the immense power of electricity, as a chemical agent, came to be properly understood.

The period at which the splendid experiments just noticed were so successfully performed, was one of no peculiar interest to the chemical historian. The science, indeed, since the commencement of the century, began to be applied to the arts, and was directed to the investigation of nature,—the former receiving new impulses,—the latter, developing new beauties; but at this precise time its horizon was overshadowed with darkness, the precursor of the glorious day which was about to arise. There soon appeared on the records of chemistry the names of a Black, a Priestley, and a Lavosier,

from whom it received the highest degrees of elucidation, and to whom we are indebted for many of the great practical results which the science has unfolded. The former of these distinguished philosophers was appointed to the chemical chair of the university of Edinburgh, in the year 1766, after having satisfied himself by experiments of the correctness of his opinions upon the subject of heat. The talents and industry of Dr. Black were such as greatly increased his own reputation, and the popularity and importance of the science. "His discourse," says his biographer, "was so plain and perspicuous, his illustrations by experiment so apposite, that his sentiments on any subject never could be mistaken; and his instructions were so clear of all hypothesis or conjecture, that the hearer rested on his conclusions with a confidence scarcely exceeded in matters of his own experience."

We have introduced the name of this celebrated chemist because it was the good fortune of our countryman Rush to attend his instructions, during the early part of his career, at Edinburgh. Imbibing a taste for the science which was so ably taught, and which opened such a wide field to the philosophic mind, Rush devoted himself, with great ardour, to its cultivation; and on his return from Europe, was appointed professor of chemistry in the Philadelphia medical school. During his continuance in this office, he published some chemical papers, which evinced an accurate acquaintance with the science as it was then understood. But he became extensively engaged in the practice of medicine, and but little leisure was left him for the prosecution of his favourite pursuit. He was soon transferred to another chair, by which chemistry sustained no common loss. This department was successively filled by Drs. Wistar, Hutchinson, and Carsin; the last of whom died shortly after his appointment in 1793.

During the time these events transpired, the most important additions were made to chemistry in England and France, and which effected an almost entire revolution in the science. It may indeed be considered as one of the most splendid and remarkable epochs of its history; "adorned by discoveries which have been rarely equalled, either in number or import-

ance, and ushered in by a series of sterling facts and memorable investigations." On the list of contributors to these we find the names of Priestley, Scheele, Cavendish, and Lavosier. The former of these is, in some measure, connected with the history of chemistry in our country. This highly-gifted individual, possessing an almost incredible versatility of talent, became attached to chemistry in 1768, and made many valuable contributions to it, between that time and 1772. It was not, however, until two years after the latter date that he made those discoveries which place him first in the foremost rank of chemical philosophers.

The first of August, 1774, has been called the birthday of pneumatic chemistry,—for it was upon that day that Dr. Priestly discovered oxygen gas, or, as he then called it, dephlogisticated air. This was succeeded by many other discoveries, which it is not necessary for us to enumerate. It is sufficient to observe, that Dr. Priestley's additions to the science have not been exceeded, either in number or importance, by those of any individual before or since his time.

Dr. Priestley was a politician and divine, as well as a chemist; and in each capacity, he pursued a course so manly, and evinced an industry so untiring, as to have astonished his warmest admirers. But the religious and political tenets which he advocated, rendered him unpopular in his own country, and obliged him to seek a refuge where freedom of opinion on every subject is tolerated. Driven by popular bigotry exciting acts of violence, successively from Birmingham and Hackney, he abandoned, for ever, the soil which proved thus ungrateful to one of its most illustrious benefactors. Like Aristides, he was forced into exile, while few of his persecutors could say what fault he had committed. It is not our intention to give an opinion upon his metaphysical, moral, or political publications; but whatever may be their defects, we shall stand forth for freedom of inquiry upon these as upon all other subjects. And whenever, by popular excitement or otherwise, this shall be opposed, a death-blow is aimed at civil liberty, and an impassable barrier is raised to the progress of improvement and discovery.

Dr. Priestley arrived at Philadelphia in 1794, and after remaining a short time in that city, then the literary emporium of the United States, took up his residence at Northumberland in Pennsylvania. Amidst all his reverses, he still continued attached to a science whose advancement he had greatly promoted. By unremitting exertion he procured, in a short time, at his residence, a library and chemical laboratory, and once more commenced, as it were, his chemical investigations. He had ever been warmly attached to the unintelligible doctrine of phlogiston, adopting it with all its absurdities and incongruities, and during his residence in this country he published a tract in its defence. This tract, besides the matter which it contains upon the phlogistic theory, is full of interesting particulars with regard to his previous discoveries.

The arrival in our country of such an individual as Dr. Priestley, was calculated to produce a great effect in creating a taste for chemical science. His gigantic mind, his great reputation, and the vast discoveries which he had made, secured to it a degree of respect and attention, which, but for him, would not have been effected in many succeeding years. Some of those who have grown grey in the cause of chemistry on this, as well as on the other side of the Atlantic, received their first lessons of instruction from this able master.

It has already been remarked, that the chair of chemistry in the Philadelphia school was vacated by the death of Dr. Carsin in 1793. Dr. Priestley, who arrived the ensuing spring, was appointed his successor, but having determined not to accept any public office, he declined the appointment; in consequence of which, Dr. Woodhouse was elected to this chair, which he continued to occupy until 1809.

In 1768, a few years after the organization of the medical school at Philadelphia, a similar institution was established at New-York, under the charter of King's College, and embraced, among other professorships, that of chemistry. And ever since that time it has formed a distinct branch of education. These two institutions, together with a similar one formed at Cambridge in 1782, are, it is believed, the only

ones in which this was taught until the opening of the present century.

With medical men chemistry has ever been a primary object of attention, and hence, even at this early date, our medical schools were supplied with individuals competent to teach it. But it was thought to belong, exclusively, to our profession, and no importance was attached to it by those who intended to engage in other pursuits. Accordingly we find that in our most celebrated colleges of arts, it was not included among the regular branches of study. In these, natural philosophy every where maintained a place, and was considered of equal importance with the classical departments. But the sciences are subject to vicissitudes as well as countries and individuals,—and each have their days of prosperity and adversity. Thus, that which during the last century claimed the highest regard, has dwindled down, and is destined soon to give entire place to another and more engrossing subject. The sciences are also, in a measure, under the control of fashion,—that which one year is the favourite, may, before another, have sunk into neglect.

Most of the causes above enumerated, have conspired to produce that great change in the opinions of our citizens with regard to the objects and importance of chemistry, and have caused its introduction as a prominent department into all our seminaries, whether literary or scientific. But this was, perhaps, chiefly effected by the vast contributions which it was continually making to the arts, and the vast inroads which it was making upon the other departments of science.

Nor is this all: the scientific independence of our country is of recent date, and until that event took place, our scanty pittance was wholly supplied by foreign bounty. Our teachers must, forsooth, be sent abroad, so that by the operation of some *predisposing agency*, they might be better enabled to become great men at home. Those of us who recollect how mean an opinion was formerly entertained by some foreigners of the genius of our citizens, need not be surprised that it was more or less adopted by those who repaired to them for instruction. Besides, we are among the number of those who

believe that an important science, like that of chemistry, cannot be acquired in the course of a few months, however great the advantages or abilities of the individual. It is true, a knowledge of its elements may be obtained, but years of unceasing study are necessary before we can become masters of it.

We do not hesitate to assert, that the consequence which was formerly attached to the mere name of a foreign education had the effect of retarding our advancement in chemistry, as indeed in all the other departments of science. It deterred those who had not the pecuniary means adequate to this object from pursuing it; and thus its interests were confided to the keeping of a few individuals, who perhaps did not possess the talent or the industry to extend its boundaries, and to enlarge its sphere of usefulness. Fortunately, however, this illusion is rapidly passing away, and we already begin to feel the salutary influence of the change. Several interesting improvements have already been suggested by our native chemists, and a knowledge of the science is becoming very widely diffused. But our present limits forbid our noticing these in detail, and we shall therefore proceed to make a few remarks upon the publications in relation to this subject which have issued from the American press, and which have contributed in an eminent degree to the advancement of the science under review.

These publications may be divided into two classes. 1st. Original remarks and the notice of American discoveries in the different scientific journals of our country; 2nd. Text books, elementary treatises, and reprints of many elaborate foreign works. Of the former, the most important are contained in "The Medical Museum," edited by Dr. Redman Coxe, of Philadelphia; "The Emporium of Arts and Sciences," edited by Dr. Thomas Cooper, and "The American Journal of Science and the Arts," by Professor Silliman. In each of these will be found contributions from our chemists, although some are also to be met with in our other medical and scientific periodicals.

Our object, however, is to speak more particularly of the works on Chemistry which have appeared. These consist chiefly of text or class books, and of American editions of the

more extensive foreign systems. Among the first reprints of foreign works was, the System of Dr. Henry, which was edited by Professor Silliman, and which has passed through several editions in this country, the late ones containing the valuable notes and additions of Dr. Hare. This deservedly popular work, although not so systematic or elaborate as some others, with the additions recently made to it, holds a distinguished rank among the numerous publications of this kind. In speaking of the first American editor of this work, we cannot omit the opportunity of bearing our testimony to the great services which he has rendered, not only to chemistry, but to the whole circle of natural science in this country. In the publication before mentioned, and the work to which he has more recently devoted his attention, he has contributed essentially to the advancement of our reputation, and to the developement of native talent.

More recently, the excellent theoretical and practical chemistry of Mr. Accum has been sent forth in an American dress, under the direction of Dr. Thomas Cooper, who has also edited the more learned and elaborate work of Dr. Thomson. Accum is, in our opinion, well adapted to the purposes of the laboratory, and was, at the time of its publication, one of the best practical treatises extant. Its avowed object is, the instruction of such as are actually unacquainted with chemical science; and the method of treating the subjects connected with it is, perhaps, more satisfactory than that of any other elementary work which has appeared. In the practical part Mr. Accum excels: many operations are greatly facilitated,—a variety of new and interesting experiments introduced,—and all explained and described with minuteness and perspicuity. But though this work combines so many excellences, the recent improvements in chemistry render it at the present time less useful than many others. It is built upon the doctrine which prevailed previous to the discovery of the metallic bases of the alkalies and earths, and hence is apt to lead the modern student into error. On this account, it is consulted with advantage rather by such as have made some progress in the science, than by the novice.

The elaborate system of Dr. Thomson has also been reprinted in this country,—a sufficient evidence, in itself, of the increasing attention to chemistry. This is perhaps the most extensive work upon this subject which has ever appeared, and of all the foreign systems, has obtained the greatest share of public approbation, not only in England, but on the continent. No work in any language can compare with it, as an excellent summary of chemical facts and doctrines. These are so delivered as to form a proper compendium of the science to be put at once in the hands of a student, ignorant of the elements of chemistry; and they are, moreover, very extensively applied to the useful purposes of medicine, the arts, and manufactures.

Thomson's system possesses a value to the chemical student which, in our opinion, does not belong to that of any other author. And this is, that he can find in it a complete history of any substance, and when different opinions have been entertained concerning it, these are briefly detailed, with constant reference to those works in which they are more fully discussed. For a thorough and satisfactory examination of any chemical subject, Dr. Thomson's work can be consulted with better prospect of success, than any other now in print. Some objections, however, may be made to its arrangement, but these are of minor importance when compared with its many excellences.

Of the works on chemistry which have recently passed through our press, the Manual of Mr. Brande appears to have received the highest degree of approbation. It is, undoubtedly, the best work of the kind which we at present possess, whether we consider it in a scientific or a practical point of view. Containing the latest improvements, it presents a correct history of the present state of the science. To the medical student it is particularly valuable, as it contains formulæ for the preparation of those compounds which are employed in the treatment of diseases. The rationale of the different changes which take place during the action of chemical agents, is, moreover, in every case given in a clear and satisfactory manner, and in accordance with the most appro-

ved doctrines of the day. We fancy, however, that Mr. Brande will feel himself under no great obligations to the American editor for this *professed* reprint of his work. A comparison of the English and American editions will sufficiently show the alterations which have been made in the latter, and the unwarrantable liberties which have been taken with the original. This is in our opinion deserving of censure. If a book is the property of its author, we conceive that no individual has the right of mutilating or defacing it, without the consent of the party concerned. Common courtesy should forbid,—common sense should discountenance it. No one can object to an editor's making such additions by note, comment, or otherwise, if the integrity of the original is preserved; but when a language is put into an author's mouth which he never held,—when his work is curtailed here and there,—and still sent forth under the sanction of his name, it cannot be viewed in any other light than as an insult to him, and a fraud upon the public. It is to be regretted that several other works have received the same treatment in this country with that just noticed. This practice cannot be too highly reprobated; it arises either from an overweening desire to appear in print, or from what is more censurable, the wish to reap pecuniary profit from the talent and industry of others.

But we owe an apology to the author of the work whose title is prefixed to this article, for having so long deferred his introduction to our readers. The "Epitome of Chemical Philosophy," by Professor Dana, is one of several recent publications, which are professedly American, and which are intended as text books or compends for the lecture room. Most of these are valuable on some accounts, but there is none deserving of that unqualified commendation which is due to the one just noticed.

The author of the Epitome has been long and advantageously known to the scientific world for his valuable contributions in chemistry, published from time to time in the American Journal of Science;—and these, together with a knowledge of his experience as a public teacher, greatly raised our

expectations when the present publication was announced; and we have no hesitation in asserting, that our high expectations have been fully realized. It appears to be exactly such a work as is wanted to fill up a niche which has not been heretofore occupied by any other, and is a valuable gift to those who are engaged in chemical pursuits. In point of extent, it holds an intermediate place between the voluminous works before mentioned and the smaller class books; though it combines in a great degree the advantages of both,—containing within a convenient compass every important chemical principle.

The design and scope of this work are thus stated by the author, in the advertisement prefixed to it.

"The object proposed in this publication is, to comprise the principal facts and doctrines of chemistry, in a condensed form, adapted to the use of those who wish to acquire a knowledge of the philosophy of the science, without entering into the details of laboratory practice, or being encumbered with the minutiæ of processes, and descriptions of substances, which are interesting only to the professed practical and operative chemist; and thus to furnish a work which should be useful as a Text Book of the Science, as it is usually taught in our academies and colleges."

"A brief description has been given of all the undecompounded bodies, and of their most interesting and useful compounds; among the latter, those have been selected, which are important in the arts, or which are employed in the laboratory as a source of other curious or useful chemical preparations."

We have examined this compend with considerable care, under the conviction that a convenient text book, properly compiled from the mass of materials which have accumulated, was a desideratum both with teachers and students of chemistry. So far as we are capable of judging, Dr. Dana has succeeded in effecting this valuable object, and we doubt not that his labours will be justly appreciated, and his Epitome take its place in our colleges and academies.

The arrangement of subjects treated of in this work is ju-

dicious; and this it is well known, is of the last importance in facilitating the study of any science. The general chemical agents are first noticed and illustrated in a concise manner; of these, electro-magnetism appears to have received much attention from the author :—next we have the acidifying and acidifyable substances, and under each, its combination with those previously described ;—to these succeed the metals and the compounds which they form with the foregoing bodies. The only exception to the above order is in the case of water, which is treated of before the simple supporters. The following reason is assigned by the author for this deviation.

" Water, a substance universally diffused, and obvious to several of the senses, has been selected as a subject better adapted to the first experimental examination by a novice, than oxygen gas, an invisible elastic fluid ; and the analysis of water leads directly to the consideration of the properties of its constituents, oxygen and hydrogen, and of the properties of gaseous bodies in general."

Were it not for this explanation we should be disposed to find fault with the slightest departure from the strict scientific arrangement, founded on electrical arrangements; which is so perfect and so systematic, as to be admirably calculated to assist the memory of the student, and to keep constantly impressed upon it the chemical changes and combinations which are developed in the progress of his inquiries.

Another valuable feature of the Epitome is the copious references which it contains to original works and memoirs which have been consulted in its preparation. This has been done, " both with a view to acknowledge the sources of information, and to direct students to publications in which the subjects are more elaborately discussed." By this means the investigation of any particular topic is greatly facilitated and is not attended with that sacrifice of time which it would, perhaps, otherwise require.

Dr. Dana adopts in their fullest extent, the theories of Davy and others with regard to chlorine, iodine, &c. and also upon the subject of combustion. In this, we think he has consulted

the best interests of the science. These doctrines, now so generally received, have effected an almost entire revolution in chemical nomenclature, and have contributed greatly towards the present extended range and race of chemical inquiry. It is true, that some still cling with firmness to the old theories, and by a few of our instructors they are still publicly taught and stoutly maintained. But the only effect of this will be to retard the progress of the science in the particular sphere in which they move, and they will, after all, be obliged to abandon the ground, for the maintenance of which they have so manfully contended. Yet so it has ever been. Those who have become attached to particular tenets or doctrines, and have become strengthened in them by age, feel a great reluctance in renouncing them. This, however, is not the spirit of genuine philosophy. The sciences are ever progressive, and the doctrines which at one time are supported by facts then known, may by subsequent discoveries be rendered absurd. In chemistry, such have been the constant changes of opinion from the time that air and water were considered as elements, to the present day. What great revolutions will be effected by it during the present century, imagination can scarcely conceive! But if it is to fulfil its high destiny, its teachers and its cultivators should keep pace with the improvements which it is constantly receiving. Else we might as well take our station on the platform erected by Priestley, Lavosier, and Scheele, and continue for ever teaching the pure and unadulterated chemistry of the eighteenth century; —discarding the subsequent discoveries as unworthy of notice, and their discoverers as trespassers upon the ancient landmarks of the science.

The second part of the Epitome is devoted to the consideration of the chemistry of organic bodies, comprised under the vegetable and animal kingdoms. Under the former, the subjects treated of are—the vegeto-alkalies or vegetable salifiable bases,—the vegetable acids,—other vegetable principles,—fermentation and its products. Under the latter, the blood and its constituents,—the soft parts of animals,—the hard parts of animals,—the secretions,—the excretions,—the

chemical changes produced by the functions of animals,—putrefaction and morbid products. Each of these are discussed in accordance with the plan pursued in the first part. As very few of the products of organic bodies can be formed by the artificial processes of the laboratory, and are not considered of much interest, they are seldom dwelt upon in courses of chemical instruction. To the medical student, however, they are of great importance, and we are happy to find that the author, both previously and in the present work, has devoted some time to their investigation.

We have not time to notice particular parts of the work under review ;—neither is this necessary, for it can only be judged of by being examined in detail. We do not hesitate, however, to give our testimony in its favour as a valuable and comprehensive epitome of chemical philosophy ; and we recommend it to all those who are pursuing the science, not fearing the result of a rigid scrutiny of the opinion which we have advanced concerning it. As it is probable that a second edition of this work will soon be required, we would suggest to the author that its present form and size be retained as nearly as practicable, and that the additions should consist chiefly of references. It is too common for works in passing through new editions, to grow in size, until they finally become so voluminous as to defeat totally the purpose for which they were intended. By this means, also, the previous editions are rendered, in a measure, valueless—a circumstance frequently vexatious to the purchaser. But these considerations should not deter the author from making such additions or alterations as the improvements in the science demand.

Dr. Dana has recently been appointed Professor of Chemistry in the University of New-York, and this text book will be peculiarly advantageous to those who may attend his instructions. We are sanguine in the belief, that in the school to which he is attached the science will receive a new impetus, and that it will now be elevated to its proper rank among the departments of medical education.

In the course of our remarks we have adverted to some of the causes which have retarded the progress of chemistry

in our country. We shall notice once more before we close, and it must be evident to those who are in the least degree familiar with the science. This is, the expense of procuring apparatus. We know that some of the experiments can be performed without a very heavy expenditure, and that the ingenious chemist will devise economical methods of exhibiting many others ;—but there are still many important chemical principles which cannot be illustrated without an expense too great for many of our public institutions, much less for private individuals. This is more particularly applicable in those cases in which series of investigations and experiments are to be conducted, to ascertain the nature of certain bodies, whether simple or compound. We might refer to the powerful voltaic instruments by which the greatest discoveries of the present century have been made, and to several others entirely beyond the reach of limited means.

In cases like the above, it is difficult to prescribe an efficacious remedy ;—we would, however, respectfully suggest to the constituted authorities of our State, that for the purpose of extending the knowledge of this useful science, a small portion of the school fund should be appropriated to the purchase of chemical books and apparatus, to be distributed among the different districts ; and that to each of our literary and medical institutions, a certain amount should be appropriated for the express purpose of extending their laboratories ; thus affording them a better opportunity of cultivating the science, and of extending its applications to the purposes of life. Let New-York, celebrated as she has become for those proud monuments of art which she has already erected, take the lead in a work which will equally redound to her honour and prosperity. Who knows but she may yet give birth to a Black, a Priestley, a Lavosier, or a Davy ? Who can tell but she is destined to awaken the energies, and excite the ardour of that master-spirit which is yet to burst upon the world,—the NEWTON of CHEMISTRY ?

ART. II. *Medical and Physical Memoirs.* By CHARLES CALDWELL, M. D. Professor of the Institutes of Medicine and Clinical Practice in Transylvania University. Lexington, Kentucky, 8vo. pp. 254.

THIS is a pamphlet containing three essays, or *memoirs;* the first treating of religion, the second of yellow fever, and the third of the analogies of disease. These, it will be readily conceded, are important and difficult subjects; but it may well be questioned, whether they will come recommended to the medical reader by proportionate claims, either of novelty or of interest. In his choice of religion as a subject connected with medical disquisition, Dr. Caldwell has been particularly unfortunate. Religion is a theme which a medical author cannot approach but with extreme caution; and when there are so many important investigations connected with his own science, all of which present the most ample scope for discovery, research, and ingenuity, it is the more especially to be regretted that he should not confine himself to the immediate study of his profession. When, however, in the faithful discharge of his official duties, a medical lecturer or journalist finds himself called upon to treat of this most important of all interests, it should be his bounden duty, imposed upon him by the laws of good morals and the suggestions of good sense, to offer no violence to the feelings and opinions of the community in which he resides, but to inculcate the most implicit respect for religion in general, and a due observance of all laws calculated to promote and diffuse religious knowledge and practices among mankind. Nor is such a duty incompatible with the most unbounded freedom of opinion, nor is it in the least calculated to fetter the march of intellect, or the developement of truth. *Ne sutor ultra crepidam.* A medical teacher or writer is not called upon to discuss metaphysics, or points of faith, or to disseminate his own particular creed *ex cathedra*, and every such deviation from the direct line of his already too extensive duties, must be regarded as an unwarrantable encroachment on the time and interests of

his pupils, and if made with a view to distract their faith or weaken their attachment to the principles of their early education, as a culpable outrage upon the good faith which intrusts their opinions to his guidance. That Dr. Caldwell, holding the responsible situation of professor in one of our medical shools, and enjoying the reputation of a medical writer for nearly thirty years, should have so far forgotten himself as to enter the lists as a metaphysical champion, in favour of *natural* religion, and its superiority to revelation, is to be deeply lamented, partly on account of his own reputation, but more especially for the injury such pretended liberality of discussion is calculated to inflict on the minds of the pupils who resort to Transylvania University.

But we shall be told, that the essay to which we allude, is entitled, "A defence of the Medical Profession against the charge of *Irreligion* and *Infidelity*," &c. To this we shall only reply by asking, what defence can that be which assumes the position, that the neglect of religion by medical men is sufficiently excusable by their discharge of their ordinary engrossing duties, which engage them in active philanthropy, and which would exculpate all neglect of public worship by the broad assertion, that "every duty, if laudably performed, is an act of worship to the Most High"?—Then let every labourer follow his occupation on the day set apart for worship, and in the words of Dr. Caldwell, "the harmony and welfare of society will be the issue!"

We do not feel inclined to extend these remarks; but we cannot altogether pass over, without notice, the occasional magniloquence and verbosity of style in which Dr. C. has indulged on this, as on some former occasions, with all its profusion of meretricious ornament and pedantic quotation.

Memoir II. This is a dissertation written in answer to certain prize questions, proposed by his Grace the Duke of Holstein Oldenburg, respecting the "origin, contagion, and general philosophy of yellow fever, and the practicability of that disease prevailing in high northern latitudes;" with

thoughts on its prevention and treatment. The author never transmitted his essay to the designated tribunal, partly because he found some difficulty in sending it, and partly induced by what he considered "the disqualification of those who were to sit in judgment on it." The College of Physicians of Berlin is, according to Dr. Caldwell, an able, enlightened, and *very respectable* society; but possesses no experimental knowledge of yellow fever, and consists entirely of contagionists. Why then did Dr. C. write this essay? We have no other information on this head, than that "being withheld from the College of Berlin, it awaits the judgment of an enlightened public."

Now the public, i.e. the physicans of the United States, have been so long in possession of the opinions of Dr. C. in relation to yellow fever, that we very much question the propriety of a reference to their decision, in this *dernier resort*. We shall, however, briefly go over the points discussed, because the long experience of Dr. C. entitles his opinion of the disease to some regard.

To the *first* question, "What are the causes of yellow fever in tropical climates," our author says, "the correct reply, expressed succinctly and without detail, would be, that yellow fever is produced by a *malaria*, or poisonous exhalation, arising from the decomposition and recomposition of the matter of organic substances."*

The *second* question refers to the similarity of the yellow fever of the South of Europe and of the United States, to that of the tropical causes. Dr. Caldwell replies in the affirmative, and enters into some interesting detail to strengthen his assertion.

The *third* question is an highly interesting one: "Is yellow fever a specific disease, or only a grade of the intermitting and remitting fever, endemial in hot climates?" We are gratified to observe, that on this point the opinion which we have hitherto defended, of the specific distinction between yel-

* Page 87.

low and bilious remittent fevers, is supported by the arguments and experienced views of Dr. Caldwell. We are the more pleased perhaps, because we have, in this instance, been thought to maintain a doctrine at variance with non-contagion, simply because many non-contagionists believed in the identity of the two diseases. We shall here offer an extract from our author, in illustration of his views.

"Without pretending to any knowledge of the real nature of that substance, let us, for the sake of illustration, suppose it to be composed of oxygen, hydrogen, and nitrogen, or any two of these ingredients.

"It is a principle in chemistry, that, in the formation of compound bodies, a greater or less proportion of any of the constituent parts, entering into the compound, or those parts uniting, perhaps, with each other more or less perfectly, produces, in the result, a material difference. In illustration and proof of this, a number of pertinent examples may be adduced.

"Carbonic oxid and carbonic acid, formed by different proportions, and probably different degrees of union, of the same elements, differ from each other exceedingly, both in their nature and their properties.

"The same is true of the phosphorous and the phosphoric acids, the sulphureous and the sulphuric acids, the arsenous and the arsenic acids, the several modifications of the muriatic acid, and, more especially, the various nitrous and nitric productions, arising from the union of oxygen and nitrogen. I might add, that by fermentation and distillation, carried on under different circumstances, compounds differing greatly from each other arise out of the same elementary ingredients.

"In the formation of these compounds, the process is probably more active and vigorous in one case than another, and the relative proportions of the component parts, as well as their degrees of union, different, the parts themselves being in substance the same. But be this as it may, in their nature, properties, and modes of action, the compounds thus formed out of the same ingredients, are widely different.

"In relation to the deleterious gas, resulting from the natural decomposition and recomposition of organic matter, the same thing may be true; and hence it may be productive of different diseases. The poison of YELLOW may bear to that of *intermitting* fever, the same relation that the strongest of the acidified compositions bears to the weakest.

"But, perhaps the most solid ground of belief, that the yellow and intermitting fevers do not arise from the *same* specific poison, differing only in *degrees of concentration*, is, *that they never, in the same place, prevail at the same time.* Did the causes producing them differ only in strength, as wine diluted with water differs from pure wine, the phenomena presented to us would be different. In that case, the miasmata, acting as from a center to a circumference, would produce, at and near to the source

of exhalation, *yellow fever*, within limits more remote, *remitting fever*, while at points remoter still, *intermittents* would preval." pp. 110, 111.

The following argument too, strikes us as forcible—

"Finally, it has been already observed, that the natives and acclimated inhabitants of intra-tropical regions enjoy an exemption from yellow fever. But, in relation to intermittents, they have no such immunity, being liable to *them*, as the inhabitants of other places. Did those two forms of fever arise from the same specific cause, it does not seem probable, that individuals proof against the poison in a *concentrated*, would be injured by it in a *diluted* condition." p. 113.

Question IV. Does it prevail as an epidemic in the low grounds of the seacoast only, leaving the elevated situations untouched? The reply is affirmative.

The fifth question is unimportant, the sixth relates to contagion—on which our author's views have long been known, and his arguments are copious.

Question VII. What degree of temperature is necessary to produce the disease, and render it epidemic, and to what degree of north latitude has it heretofore extended? To this the author replies by an extract from a work of his, published at Philadelphia in 1807, and to which he complains that no reference has ever been made. From this it appears, that unless the thermometer rise to 80° Fahr. and continue at that height forty days, no yellow fever need be apprehended. To the second branch of the question, our author replies, that the highest latitude to which yellow fever has been known to extend is 42° 22′ N.

The remaining three questions are dependent upon the former, and relate to contingencies of police, quarantine, &c.

The memoir is closed with some observations on the pathology and general treatment of yellow fever. From this part of the work we shall make a single extract.

"The *immediate seat* of that disease is the internal coat of the stomach, the local affection extending, at times, to the duodenum, and perhaps further. But its foundation is laid in an *extensive congestion* of the *abdominal viscera*. From this congestion, not, perhaps, an organ within the range of

the portal circle is entirely exempt. In different cases the liver has been found engorged in different degrees; at times but very slightly. When that organ has been discovered to be least affected, the congestion in some of the other abdominal viscera, particularly the stomach, has been the deeper.

"The state of congestion generally, is also exceedingly different in different cases of the disease. It is *excitive, inflammatory, or of a degree, so high as to prostrate the system, and take from it entirely the power of reaction.*

"As in all other complaints, congestion here is the product of antecedent *irritation.* That irritation, again, is but another name for a deleterious impression, effected through the property of *irritability*, by means of a specific aerial poison.

"If, then, yellow fever consist in abdominal *congestion*, inflammatory or otherwise, the curative indication is to remove it, and equalize the broken circulation and excitement. Internal congestion is accompanied by an external deficiency of blood. To carry this indication into effect, different means must be employed, according as the congestion is more or less intense. With this intensity correspond the violence and danger of the complaint.

"The modes of removing congestion are two, *depletion* and *revulsion.* Depletion is effected in two ways, *venesection* and *secretion.* Revulsion is produced by *counter-irritation.* When the congestion is *internal*, the counter-irritation is excited on the skin. When *external*, it is often removed by irritation in the stomach, skilfully directed.

"Secretion, to be effectual, must be more or less general. But that form of secretion is most immediately useful, whose organ is nearest to the seat of congestion. In the observations about to be offered, on the treatment of the disease under consideration, the applicability of these remarks will be rendered apparent." pp. 153, 154.

ART. III. *Journal of the Philadelphia College of Pharmacy.* Nos. 1 and 2. 8vo. pp. 64. Philadelphia, 1825.

ACCIDENTAL circumstances led a number of the druggists in the city of Philadelphia, in the year 1820, to associate for the purposes of mutual benefit. Out of this association, we are told, grew "the Philadelphia College of Pharmacy." It consisted, originally, of sixty-eight druggists and apothecaries, and received an act of incorporation in 1822. It is the first, and we believe, as yet, the only establishment of the kind in our country, and as such, constitutes an era in our

medical history. The precise objects to which the labours of the association are directed, are announced in the introduction to the 1st No. of its Journal. They are, "the instruction in the school of pharmacy,—the examination and inspection of drugs,—the preservation of harmony and correct conduct among its members,—and the cultivation of pharmacy and a taste for science." To accomplish their objects more completely, the Journal under notice was projected. Two numbers have as yet only appeared, which we have been induced to notice, with the double view of laying some interesting selections from them before our readers, and of directing public attention to the necessity of a similar establishment in our own city.

On the preparation of Glauber's and Epsom Salt and Magnesia from Sea Water. By DANIEL B. SMITH.

This paper gives an account of the processes pursued at the large salt works in Massachusetts, at which all these salts are manufactured.

"The brine at these works is pumped into vats of the capacity of six hundred or a thousand hogsheads, where it is concentrated by evaporation in the sun to the strength of a saturated solution. It is then drawn off into a second vat, called the pickle vat, of about half the size of the first, in which it is cleared from impurities, and thence transferred to a third still smaller vat, in which the evaporation is finished and the common salt formed. When crystals of Epsom salt begin to deposite, the mother water is drawn off, and kept, under the name of Bitterns, for the Epsom and salt and magnesia works.

"The season for making salt is over by the end of October, and the large vat is then filled with brine, which the sun and high winds of the two succeeding months concentrate to the strength of pickle. This is drawn off into the pickle vat, is which it remains till spring, when it is transferred to the third vat and evaporated to obtain the common salt. During, however, the extreme cold weather, a chrystalline deposite is formed, consisting chiefly of sulphate of soda, which is taken out with iron rakes having strainers attached to them, and then purified for sale by recrystallization. The best formed crystals are sometimes dried and sold in their impure state.

"The bitterns consists chiefly of sulphate of magnesia and hydrochlorates of magnesia and lime, of which the latter two do not easily crystal-

lize. It is evaporated slowly, and the Epsom salt may, with proper care and washing, be obtained very pure. When evaporated too hastily, it is mixed with hydrochlorate of magnesia, a very bitter and deliquescent salt.

"To obtain the magnesia the bitterns is diluted to a certain standard (upon the strength of which the degree of the firmness and compactness of the magnesia is said to depend) and mixed with a solution of pearl ash. The precipitate is repeatedly washed in water, which is at first hot and gradually cooled, till it comes off quite tasteless. The box in which it is washed is twenty-five feet in length by twenty feet in breadth, and three in depth, and has a strainer of canvass for a bottom. When sufficiently pure, the magnesia is allowed to thicken, and is then poured into square moulds placed on canvass strainers. When these are full, and the magnesia has obtained the proper consistence, the moulds are lifted off, and the next day the magnesia is removed into the drying oven, where it is kept for forty-eight hours, at a temperature of 190°, then taken out, scraped, and packed up for sale."

"In attempting to investigate the rationale of these processes, I shall assume as correct the experiments of Dr. Marcet, published in the Philosophical Transactions for 1819. This excellent chemist obtained from five hundred grains of sea water from the middle of the North Atlantic ocean, having the specific gravity of 1.02886 the following precipitates:

	grs.			grs.
Chloride of Silver,	42	equivalent to	Chlorine,	10.356
Phosphate of Magnesia,	2.7		Magnesia,	1.125
Sulphate of Barytes,	3.85		Sulphuric Acid,	1.805
Oxalate of Lime,	8		Lime,	.35
			Sodium,	6.037

"The state in which these elements exist in sea water is involved in much obscurity. According to the temperature employed in the evaporation, we procure from it either sulphate of lime, sulphate of magnesia, or sulphate of soda. It is therefore evident that a change of temperature is sufficient to disarrange the combinations that usually obtain."

"If we suppose the sulphuric acid to exist in combination with soda, the following may be considered as the composition of 1000 grains of sea water."

Sulphate of Soda,	4.698 grs.
Hydrochlorate of Magnesia,	6.4125
——————Lime,	1.625
Chloride of Sodium.	26.27

If it be combined with magnesia the following arrangement may be considered as obtaining:

Sulphate of Magnesia,	3.915 grs.
Hydrochlorate of do.	2.69325
——————Lime,	1.625
Chloride of Sodium,	30.185.

"The latter formula agrees better than the former with the medium proportion of salt, (which is about three per cent.) in sea water. If sulphate of soda be the salt naturally in solution, I know of no law to determine the formation of sulphate of magnesia. If the latter salt be the one ready

formed in sea water, the production of sulphate of soda during intense cold will be in agreement with two known laws. One of these is, that solutions of sulphate of magnesia and chloride of sodium decompose each other when exposed to a freezing temperature, as first remarked by Gren. The other is the very remarkable law of solubility of sulphate of soda. At 32° F. 5. 02 parts of the dry salt are soluble in 100 parts of water, and 50.65 parts at 102°; whereas the solubility of chloride of sodium is scarcely affected by the temperature. The pickle in which the Glauber's salt forms, is a nearly saturated solution of salt, and remains liquid at zero. At this temperature almost the whole of the sulphate of soda will crystallize. It is therefore probable, that the sulphuric acid exists in sea water in combination with magnesia."

"The formation of Glauber's salt cannot be advantageous to the manufacturer. It lessens the production of common salt about thirteen per cent.; and though the same quantity of magnesia can be obtained from the bitterns, it will not yield Epsom salt."

"It is much to be wished that accurate observations should be made on the spot, of the composition of the bitterns, and the various phenomena occurring at a salt works. Much advantage woald result to the manufacturer in point of economy, and new light be thrown upon an obscure and intricate subject."—pp 6-9

On Extract of Quinine. By JOHN FARR.

This is an American preparation of the Quinine, and was first made by Dr. Farr, in 1823, a season in which intermittents and remittents prevailed very extensively in Philadelphia. It was suggested to him during the preparation of the Sulphate of Quinine. The following is the account which he gives of it.

"By adopting the methods laid down for the preparation of this article, I soon discovered, after separating two or three crops of crystals, much quinine still remained, in combination with resinous and colouring matter in the form of a thick dark brown liquid, but, in consequence of its viscidity, very difficult of separation.

"The idea suggested itself that this residuum might become an efficacious medicine in the form of an extract, (a form by no means objectionable when exhibited in pills,) which would be less expensive to the patient, and equally efficient by an increase of dose; an important desideratum in consequence of the extensive prevalence of the disease amongst the poorer class of citizens.

"I carefully reduced, by evaporation, some of this liquid to an extract, which I left with Mr. D. B. Smith for the purpose of trial by some of his medical friends. Dr. Emlen, being apprised of it, was the first who pre-

cribed it, and was pleased with its effects in doses of two grains each; he afterwards diminished the dose to one grain, but did not find it succeed; he accordingly reverted to the original quantity of two grains, and, with few exceptions, discovered the happiest effects from its exhibition, and, that it is in no respect inferior to sulphate of quinine.

"Drs. Parish and Wood were the next to make use of it in their practice, and found the results equally successful; afterwards it was prescribed by several other physicians, which occasioned a demand for the article equal to what we were able to furnish. It will be recollected that the extract could be obtained only in proportion to the quantity of sulphate of quinine prepared, and this proportion varied according to the quality of bark made use of.

"From the finest kinds of bark the extract resulting would be about as one to four; but from the more inferior kinds the proportion was larger. From that time to the present, the article has been prepared simply by the careful evaporation of the residuary liquor of the sulphate of quinine. From its diliquescent character, it is probable that the acid may exist in a little excess, which would thereby present the quinine contained in it, in the state of a super sulphate."—pp. 43—45.

On James' Fever Powders. By Dr Samuel Jackson.

We shall quote this article entire, leaving our readers to judge of the accuracy of the writer's statement by their own experience.

"The fever powder of James, that gained so much reputation in England, was esteemed an active preparation. It was accused of producing, at times, very violent effects, and was even opposed, by some, as a dangerous medicine.

"Dr. George Pearson, who undertook to analyse this preparation, found it to consist of oxide antimony 57, phosphate of lime 43, =100. Antimony combines with oxygen in different proportions. Thenard makes four oxides, but it is generally, and, for pharmaceutic views, may always be regarded that there are only two: the per and the protoxide of antimony. The first consists of antimony 73⅓, oxygen, 26⅔, =100; or, 1 atom metal =44, 2 atoms oxygen =16, =60, weight of atom of peroxide. The last consists of antimony 84. 62, oxygen 15. 38, =100: or, 1 atom metal =44, 1 atom oxygen =8, =52, weight of atom of protoxide of antimony. Now, the first of these, or the peroxide, is perfectly inert, as has been frequently, demonstrated; on which account, the antimonium calcinatum, which is a peroxide, was omitted in the Pharmacopœia Londinensis of 1809. It is the protoxide and its combinations alone that possess active powers. Dr. Pearson, in his analysis, did not determine which of these oxides existed in the James' powders he examined, and, consequently, it was left by him very imperfect."

"It was from this analysis of Mr. Pearson that the formula for preparing the oxidum antimonii cum phosphate calcis of the Edinburgh, and pulvis antimonialis of the London and Dublin pharmacopœias, was adopted. It consists in heating sulphuret of antimony and hartshorn shavings, mixed together in a crucible, until vapours cease to arise. The remainder is then reduced to powder, and exposed to a white heat for two hours.

"This preparation has been so generally adopted in the place of James' powders, that, in this country, the last are rarely to be met with. It is evident, however, from the high temperature employed, that the antimony must be oxided, to a maximum, and that the product is the peroxide, and of course, wholly inert. That such is the fact has been demonstrated. Mr. Phillips mentions that, in consequence of Dr. Elliotson having exhibited one hundred grains pulvis antimonalis without effect, he examined two different parcels, and found, in each, the antimony was in the state of per oxide.

"Dr. Paris, in his Pharmacologia, asserts, "that experience has established the fact, that James' powder is less active than its imitation," and in a note to the article pulvis antimonialis, vol. ii. p. 277, line 2, in which he notices Mr. Phillips' observations, he remarks that "it will be difficult for the chemist to persuade the physician, that he can never have derived any benefit from the exhibition of antimonial powder.

"To ascertain whether the pulvis antimonialis would produce any well characterised operation on the system, I requested Dr. Whight, resident physician to the Alms House, to administer it in large doses. On the 12th, inst. it was given to a patient, whose stomach was in good condition, and who complained only of a slight pain in the hip, in the dose of ten grains; no effect resulting, in an hour fifteen grains more were given, and proving without any operation; in an hour twenty grains in addition were administered, making forty-five grains in three hours, without the slightest effect.

"To another individual, whose stomach and general health was equally favourable to test the powers of this preparation, ʒiss. were given at a dose. A slight evacuation, by stool, succeeded in some hours, but which cannot be said to have proceeded from the medicine; no nausea or other effect was produced.

"To another patient ʒii. were given every hour, until ʒvi. had been taken. No particular disturbance of any function was occasioned by it.

"The above experiments, corroborating the statement of Dr. Elliotson, and being in strict accordance with the chemical analysis, must place beyond all manner of doubt that the pulvis antimonialis, prepared according to the directions of the English colleges, is an inert and wholly useless preparation, which should be expunged from the lists of the pharmacopœia.

"Dissatisfied with the analysis of Mr. Pearson, other chemists undertook to determine the composition of James' fever powders with great accuracy. Mr. Phillips states that he found it to be a mixture of peroxide of antimony

and phosphate of lime, in the following proportions; peroxide antimony 56, phosphate of lime 44, = 100.

M. Pulli, a chemist of Naples, also subjected James' powder to a very rigorous analysis, and obtained results somewhat different from those of Dr. Pearson, or of Mr. Phillips. The constituents, he ascertained, were, in thirty-eight grains: perox. antimon. gr. xiv., phosphate of lime gr. viii. sulphas potassæ, gr. ix., potassa, containing protoxide. antimon. gr. vii.

"He proposes, in consequence, a new formula for its preparation. He directs sulphuret antimony two parts, phosphate lime, calcined one part, nitrate potash, four parts; powder and mix them together: put them into a covered crucible, and expose them to a strong heat.

"In this process the nitrate of potass and the nitric acid are decomposed. Part of the oxygen of the acid combines with the sulphur of the sulphuret and forms sulphuric acid, which unites with part of the potash to form sulphate of potash; the other portion of the potash, now free, acts on the antimony oxided to a minimum and retains it, while the larger portion of the antimony of the sulphuret is oxided to a maximum.

"M. Pulli asserts, that, on analysing the product of this process, he obtained the same results as from the analysis of James' powders. The quantity of protoxide is, however, so small, that no very decided operation can be expected from it.

"From all the observations and experiments that have been made, it is very evident that the James' powder, as well as its imitation, can be of very little utility, and that the same reasons that led the English colleges to discard the antimonium calcinatum, or diaphoretic antimony, once so famed for its usefulness in febrile diseases, apply equally to these preparations."—pp. 45—49.

On the Lytta Gigas. By Dr. Samuel Jackson.

This paper contains an account of a species of Cantharides, which was imported into Philadelphia, under the name of the East India flies. On trial at the Alms House, they were found to vesicate much sooner than the Spanish fly, and from their greater activity, only half the quantity was used in making the Emplastrum Cantharides.

"*Description.*—The colour is a deep azure or sea blue; all parts of the insect, head, elytra or wing cases, body, and legs, are of the same colour, with the exception of the under part of the chest, on which there is a brown spot. Its size is from three quarters to an inch in length, being nearly twice the size of the lytta vesicatoria, or cantharides. They have little or no odour."

"All of the species of the genus lytta are, I believe, endowed with vesicating properties. We have several that are natives, and which are found

at times, in quantities sufficient to make their collection an object; such is, particularly, the lytta vitata, or the common potato fly. From some comparative experiments I made several years since, I found this species more powerful than the common run of the cantharides of the shops. Mr. Say discovered, in one of the expeditions under Major Long, a new species, which he has named Lytta Nuttale, after Mr. Nuttal, and which, he informed me, he ascertained to be very powerfully vesicating, and might be collected in considerable quantities."—pp. 51—52.

Remarks upon the Preparation of Black Drop, and the Acetic Tincture of Opium. By THOMAS EVANS.

Though somewhat long, we shall quote the whole of this interesting article.

" The Lancaster, or Foulke's black drop, has been esteemed superior to other preparations of opium, in consequence of its being less apt to produce constipation of the bowels, sickness of the stomach, or those distressing nervous affections which sometimes supervene on the use of the gum itself, or the common tinctures of it.

" Acetic preparations of opium have long been celebrated. As early as the time of Van Helmont, directions were given for preparing a tincture of opium with the juice of quinces; and the Anodynum specificum Paracelsi was compounded with the juice of sour oranges and quinces; and as these preparations were to be fermented, the product would be acetous acid. It is probable that the recipe for the modern black drop was taken from one of the above prescriptions. The preparation of this article was kept secret for many years, but the recipe having come into the possession of Dr. Armstrong, he very obligingly gave it publicity, and it is now copied into most of the pharmacopœias. Its active ingredients appear to be opium, acetat of morphium, and a small portion of the oil of nutmeg.

" The directions given for the preparation of the black drop, in Paris' Pharmacologia, Coxe's American Dispensatory, and the Pharmacopœia of the United States, are all substantially the same; and as we propose offering a few remarks upon the subject, we shall copy from the latter work It is as follows, viz.

" ' *Vinegar of Opium, commonly called Black Drop.*

Take of Opium, half a pound,
Vinegar, three pints,
Nutmeg bruised, one ounce and a half,
Saffron, half an ounce;
Boil them to a *proper consistence;* then add,

Sugar, four ounces,
Yeast, one fluid ounce.

"Digest for seven weeks, then place in the open air, until it *becomes a syrup;* lastly, decant, *filter*, and bottle it up, adding *a little* sugar to each bottle.'

"The first inconsistency which presents itself in this recipe is the name given to the compound: 'Vinegar of Opium' should mean, simply, a solution of opium in vinegar; but the article ordered is a *compound syrup of opium*, with nutmeg and saffron; it is, therefore, evidently incorrect to call it the vinegar of opium.

"The direction to 'boil the ingredients to a *proper consistence*,' is entirely indefinite; and the strength of the black drop will necessarily vary, according as the ideas of operators may differ in regard to the *consistence* which *is proper.* One person may think it of 'a *proper consistence*,' when a fourth of the menstruum is evaporated; another not until one half of it is dissipated; and hence the proportion of opium, contained in any given quantity, will be subject to correspondent variation.

"After it is brought to 'a *proper consistence*,' we are told to 'digest for seven weeks, and then place in the open air *until it becomes a syrup.*' The digestion for seven weeks appears to be quite unnecessary. The proportion of opium to the vinegar is so great, that only a small part of it can be dissolved, and as vinegar is a ready solvent of opium, it would soon become saturated; all the purposes, therefore, of the tedious process of seven weeks' digestion would be fully accomplished by the previous boiling. As the oil of nutmeg is volatile, and will be easily evaporated, the process of boiling, and subsequent exposure to the air, must nearly or quite dissipate it, so that if any benefit is expected to result from its entering into the compound, this would probably be lost. It would seem more proper that the minute division of the particles of opium should be effected by trituration, instead of boiling, and the article thus made would be equally safe and certain in its strength, since the opium is principally held in suspension. 'Placing it in the open air *until it becomes a syrup*,' involves the same uncertainty as 'boiling to a *proper consistence.*' The term syrup is used to designate liquids which differ greatly in the degree of their fluidity from a thin liquid, to one little less dense than an extract, and consequently the strength of the black drop will be subject to variation, according to the ideas which the operator may entertain of the proper consistence of a syrup.

"Lastly, we are directed to 'decant, filter, and bottle it up, adding a little sugar to each bottle.' The same vagueness and uncertainty which mark the former part of the recipe are likewise evident here: it is astonishing that directions so indefinite and improper, for preparing an article powerful and even dangerous in its effects, should have been transcribed into professional works, without the smallest animadversion upon their in-

correctness. What we are to understand by '*a little sugar*,' or of what capacity '*the bottles*' must be to which *that little* is to be added, we are not informed, both of which circumstances, it is evident, will affect the strength of the medicine. The article is already evaporated to the consistence of a syrup, consequently, any quantity of sugar, however '*little*,' which is added, will increase its bulk, and if the bottles in which it is contained be small, and 'a little sugar added to *each one*' as is directed, the relative quantity of opium will be materially diminished. We cannot see the propriety of adding any sugar, since the formula is already '*a syrup*.'

"The introduction of yeast into the compound appears also very unnecessary. Its use can only be, we apprehend, with a view of producing fermentation; but as the menstruum used is vinegar, the necessity for fermentation is done away.

"Paris' Pharmacologia and the American Dispensatory direct the acetic solution of opium to be 'boiled to a *proper thickness*;' and after adding 'a quarter of a pound of sugar and *two spoons-ful* of yeast, set the whole in a warm place near the fire for six or eight weeks, then place it in the open air *until it becomes a syrup*.' These directions are equally indefinite and improper with the former; in one respect they are more so, since they state the quantity of yeast at the uncertain measure of 'two spoons-ful,' leaving us to choose between large and small, table and teaspoons. It is not pretended that the strength of the preparation would be materially altered by the use of either of them, but it is certainly improper to give the direction for preparing so active and important a compound in such ambiguous terms. The American Pharmacopœia has amended this article by changing the measure to one fluid ounce.

"It will require but a moment's reflection to convince us that the practitioner of medicine can never know what quantity of opium he is giving, when he prescribes this inelegant, unscientific, and uncertain preparation. He may either give so much as to produce far greater effects than he anticipates, or while endeavouring to guard against this, he may find that the quantity ordered is inefficient. The danger of using the black drop is greatly increased by the fact, that a large portion of the opium which enters into its composition, is *undissolved* and merely held in suspension by the syrup. It will consequently subside towards the bottom of the vessel containing it, leaving the superior portions of less than ordinary strength, and as these are poured off, the remainder may contain *double* or *treble* the proper quantity of opium. It is true, the dispensatories direct the syrup to be '*filtered*,' but it is obvious that it would not pass through any filter, the pores of which were small enough to detain the minute portions of undissolved opium. The article when prepared according to the pharmacopœia, *always contains a considerable volume of suspended opium.*

"It needs no argument to show that the black drop should no longer be recognised as an official preparation. As the acetic compounds of opium are acknowledged to possess, in some cases, a decided advantage over all

others, it seems desirable to substitute for the black drop a tincture, which shall possess those advantages without the objections to which that preparation is liable. Some years ago, Dr. Joseph Hartshorne directed the preparation of such a tincture, according to the following recipe, viz.:

" Turkey opium, ℥ii.
Strong vinegar, ℥ f. xii.
Alcohol, ℥ f. viii.

Triturate the opium with the vinegar; add the alcohol and digest with gentle heat for ten days; then filter through paper for use.

" This tincture has been extensively used in this city and other places, and is found to possess all the virtues of the black drop. Those who prefer the addition of the aromatics, may prepare it by putting in half an ounce of nutmeg, bruised, and one drachm of saffron.

" One fluid drachm of the simple tincture yields by evaporation, 3.5 grains of hard extract, of a dark brown or nearly black colour, shining fracture and extremely bitter taste. The common tincture of opium (laudanum) contains only 2.3 grains of extract to the fluid drachm; it follows that the acetic tincture contains 9.6 grains more of the extract, in every fluid ounce, than laudanum. Its strength, in proportion to the latter, is as fourteen to nine.

" The extract obtained by evaporating the acetic tincture, furnishes a very convenient mode for exhibiting the preparation in pills or powders. It is known by the name of acetated extract of opium, extractum opii acetatum.

" From several experiments, which I have made, it appears that the proportion of extract yielded by this tincture, is affected in some measure, by the strength of the vinegar. Acetous acid dissolves a larger portion of opium than either alcohol or water. Of sixty parts of opium which were digested for several days in pyroligneous acid, fifty were dissolved, and, after the solution had been filtered through paper, were obtained by evaporation, in the form of a shining dark brown extract. Sixty parts of opium treated in the same manner with alcohol and water, each yielded only about half the quantity of extract.

" As the vinegar of the shops is often impure and contains but a small portion of acetic acid, I would suggest the propriety of forming a menstruum with purified pyroligneous acid, water, and alcohol. I have accordingly prepared an acetated tincture of opium by the following recipe:

" Pure pyroligneous acid, ℥ f. v.
Water, ℥ f. vii.
Alcohol, ℥viii.
Turkey opium, ℥ii.

Mix the acid, water, and alcohol, and triturate the opium with the com-

pound; digest with a gentle heat for ten days or two weeks, and filter through paper for use.

"The pyroligneous acid which I used was perfectly transparent and colourless, and contained about 30.5 per cent. of acetic acid, one hundred grains of it requiring 87.5 grains of crystallized sub-carbonat of soda to saturate it, which is about six times the quantity required by good vinegar.

"The tincture prepared by this recipe yields, by evaporation, thirty-two grains of hard extract of opium to the ounce; its strength, compared with laudanum, is about as sixteen is to nine.

"Where an aromatic tincture of opium is wanted, the following recipe will furnish an elegant preparation, viz.:

"Pure pyroligneous acid,	℥ f. v.
Water,	℥ f. vii.
Alcohol,	℥ f. viii.
Turkey opium,	℥ii.
Nutmeg, bruised,	℥ss.
Cardamom seeds, bruised,	ʒii.

Mix the acid, water, and alcohol, and triturate the opium with the liquid; add the nutmeg and cardamom; digest for two weeks, then filter through paper for use." pp. 53—60.

We cannot take leave of this publication without wishing it every possible encouragement. We also hope, that the laudable example set us in Philadelphia, in establishing a College of Pharmacy, may very speedily be followed in this city. It is a subject of deep interest to the profession, and we shall take occasion, ere long, to call attention to it somewhat more in detail.

QUARTERLY HISTORY

OF

IMPROVEMENTS IN MEDICINE AND SURGERY.

Foreign.

ANATOMY AND PHYSIOLOGY.

Case of Uterine Hemorrhage, successfully treated by the Operation of Transfusion. By C. Waller, Esq.—A great deal has been said about the *danger* of this operation, but we have no facts brought forward to prove it; whilst, on the contrary, the cases which have already occurred are sufficient to warrant an assertion that it, at any rate, is not necessarily attended with danger. But, like any other operation in surgery, it may be made a dangerous one in the hands of ignorance and inexperience; for, although it requires but a very moderate portion of skill, yet there are several *niceties* (if I may so express myself,) which are essentially necessary to be attended to, to ensure the success of the operation.

In the case which I am about to relate, the patient appeared to be as near death as it was possible for any one to be, without being actually dead.

The female was thirty-two years of age, of a very delicate and nervous habit, was exceedingly emaciated, and was so reduced by long-continued nausea and vomiting, that she had been for three weeks confined to her bed, and during the last ten days she could not even turn without assistance. I was summoned to her on the morning of the 24th April, and arrived at her house at a quarter before ten A. M., and was informed that she had experienced a few slight pains since three o'clock; that there had been a continual drain since that time, but latterly the discharge had increased: it had, in fact, run through the bed upon the floor. The patient was in a very alarming state; the pulse was only perceptible at intervals, and, when it was so, the beat was too indistinct to be accurately counted: it was, however, extremely rapid, about 140 in the minute. Both the upper and lower extremities were very cold, and she could scarcely answer any question that was put to her; her countenance exhibited that death-like appearance which it is impossible to describe, but which most of your readers must

have witnessed in patients who are on the point of death. On examination, I found the hemorrhage profuse, the promontory of the sacrum rather advanced, and no part of the child below the brim of the pelvis; I therefore introduced the whole hand into the vagina, and ascertained the shoulder to be the presenting part. In such an alarming state of syncope did she appear, that I had my doubts whether the sudden emptying of the uterus would not destroy life. Finding, however, that the stimulus of the hand produced some slight uterine action, I was encouraged to proceed with the delivery, (two or three, tea-spoonful of brandy having been given her.) Under existing circumstances, there was no difficulty in turning the child, but the projecting promontory of the sacrum opposed a little resistance to the passage of the head. The placenta followed almost immediately, and the hemorrhage ceased.

The symptoms, however, of collapse were by no means relieved. The yolk of an egg was beaten up with brandy, and a small quantity given from time to time; but it failed in producing even a temporary rally. There was the high respiration in a most remarkable degree; the pulse conveyed a very feeble and fluttering sensation to the finger; the coldness of the surface was increasing, and there was a distressing state of restlessness. After waiting about three-quarters of an hour, it was very evident that we were losing ground, and I therefore determined on performing the operation of transfusion, aided by my friend Mr. Doubleday.

An obstacle, however, presented itself: the woman who had promised to supply us with blood now refused, and I had therefore to seek for some one else. After the lapse of half an hour, I returned, and found that during my absence the symptoms had been progressively increasing, and she was then in such a desperate state of exhaustion, that I must confess I scarcely conceived it possible for any thing to save her, though I determined to make the attempt.

A vein was opened in the arm of a gentleman, who kindly volunteered his blood on the occasion, and the operation was performed in the usual manner. I may mention in this place, (as we afterwards ascertained from the patient,) that at this period she could neither see, hear, nor speak; nor did she appear to feel, for, although she was naturally remarkably sensible to pain, there was no flinching when the integuments were cut through; neither had she the slightest idea of what we were about.

The first injection (thirteen drachms in quantity) produced no improvement in the pulse, beyond a temporary rally, (this, however, the brandy had failed in doing,) rendering it for a time rather more perceptible; but it is a remarkable fact, that from this time the restlessness ceased.

After waiting about five minutes, the injection was repeated (thirteen drachms,) and it had the effect of rendering the pulse a little more perceptible, though not to any great extent.

In another five minutes, one ounce and a half was injected: the pulse now became tangible, beating at the rate of 124 strokes in the minute.

She, however, still felt very cold; there was the high respiration, with occasional sighing; the aspect of the lips was rather improved.

In about five minutes more, fifteen drachms were injected: the pulse became a little more hurried after this injection, (140 in the minute,) but was still more perceptible; the respiration became for a few seconds a little more laborious. Her breathing was also rather stertorous, appearing as if she were in a dose; for this symptom went off if she was roused. She could at this time answer any question that was put to her.

The blood now flowed slowly from the arm of the gentleman who was supplying me: I consequently did not like to throw any more in, but had recourse to the arm of my own nephew, a healthy youth about fourteen years of age, whom I had taken with me for the purpose, and injected another fifteen drachms.* After this injection, there was a most decided improvement; the pulse became firmer, (130 in the minute,) the countenance improved in appearance, and the warmth was returning. In consequence of my washing the syringe with water that was too hot, the valve became imperfect; and I was on that account obliged to desist, which I regretted exceedingly; for, although I was quite satisfied that her improvement was sufficient to remove any apprehension of her dying from the *immediate* effects of the hemorrhage, yet, from her previously exhausted condition, and, from the irritable state of the stomach, which I feared would prevent the introduction of the necessary supply of nourishment, I should have considered her ultimate recovery more certainly secured by one or two more injections, although the quantity of blood injected (eight and a half ounces,) was twice as much as was employed in my first patient. The operation finished about one o'clock, and in about an hour afterwards I left her.

In this case it is to be observed, that the introduction of the blood did not produce any temporary symptoms of distress; and this, I apprehend, was owing to the extreme slowness with which I injected it; for, from some experiments I have lately assisted in making, I am led to infer that the sudden and forcible injection of the blood will create some unpleasant symptoms, and may, when the animal is exceedingly exhausted, extinguish the heart's action altogether, if the quantity thus forcibly injected be large.

I have before stated, that the patient had been from time to time supplied with small quantities of yolk of egg, with brandy: a little before I left the house, the whole of this was rejected from the stomach, just in the same state that it had been swallowed; it had not been acted upon in the slightest degree. This circumstance confirms my opinion that, in these *very extreme cases*, nourishment is of but little use, as the stomach does not possess the power of assimilating it.

Eight P. M.—There is a very comfortable warmth over the whole surface of the body; pulse 140, regular, though small; her countenance is cheerful; tongue clean and moist, but her stomach so irritable that she has not

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* It should, perhaps, be mentioned that about half an hour elapsed between this and the preceding injection.

kept any thing on it excepting the effervescing draught. Complains of pain in the course of the vein, which was instantly relieved by loosening the plaster, which had been bound round her arm rather tightly.

Ten P. M.—Much in the same state; arm quite easy; complains of a little uterine pain.

I shall not enter into the tedious detail of every day-symptoms. I have the satisfaction of saying that the stomach became more settled after the first twenty-four hours. The pulse, for three days, ranged from 130 to 140, but there was no other alarming symptom; and, although there were several occurrences tending to retard her recovery, such as a very uncomfortable close room, a noisy house, and a want of proper attendants; yet she was enabled to sit up for about half an hour on the seventh day, and, on my visit this morning, (twelve days after her confinement,) she was sitting up in the bed with her clothes on. Her pulse remains pretty steadily at 100, and she is enabled to take a tolerable supply of nourishment; and, under all the circumstances of the case, I consider her to be doing remarkably well. She will, I doubt not, be some considerable time before she completely regains her strength, as she was so excessively reduced by illness previous to her confinement. The wound in the arm is nearly healed.

The recovery of this patient under so many discouraging circumstances has been highly gratifying to me, and has still further strengthened my conviction that transfusion of blood in desperate cases of hemorrhage, is not that wild and visionary scheme which some men are so industriously endeavouring to make it appear.—*Lond. Med. and Phys.*

Comparison of Indian and European Skulls.—Dr. Patterson, of Calcutta, from a comparison of numerous skulls of Indians with those of Europeans, has deduced that the head of the former is to that of the latter race as two to three. Or otherwise, that the head of an European fifteen years years of age, is of the same size as the head of an Indian thirty years of age.—*London Med. and Phys. Journ.*

Remarks on the Human Stomach, by Samuel Thomas von Soemmering. *Memoirs of the Bavarian Academy of Sciences*, vol. viii. p. 77—86.)—Soon after the new edition of my programm on the corporeal difference between the Negro and European, Mr. Billman, in Cassel, drew my attention to the fact, that, in respect to the stomach, there is also a great difference between these two races of mankind. The form of the stomach altogether appears, in the negro, rounder, or at least shorter, than in the European. If we compare, in the natural state, the stomach of a negro, fourteen years old, and of an European girl of twelve years, we observe this difference, particularly at that part commonly called its *cul de sac*. This blind sac is evidently more globular in the negro, and, above the junction of the œsophagus, more convex than in the European. A similar but still more remarkable roundness of the stomach may be observed in the

stomachs of apes, and which may be seen in Daubenton's excellent plates to Buffon, just as it is found in the natural state. Thus, also, in the form of one of the most essential organs, namely, that of the stomach, the negro appears more to resemble the ape than is the case with the European. I am not aware that any one has noticed this difference before myself. Neither Charles White in his "*Account of the regular gradation in Man*," nor William Lawrence in his "*Lectures on Physiology, Zoology, and the Natural History of Man*," which, up to the present time, is the most perfect work on the differences of the human race, have touched this subject. Whether this remarkable difference can be looked upon as proof in support of the opinion of several natural historians, which is every day gaining more ground, viz. that mankind must have arisen from more than one original stock, and in what respect I shall, therefore, be obliged to change the opinion which I have before given, I will for the present pass by. But I must here formally protest against this new discovered corporeal difference being used as a plea in behalf of the cruel treatment which the Europeans continue to inflict on the negroes.

Another observation on the human stomach regards the description given by Sir E. Home,* of the contraction in the centre, which appeared to him so remarkable, that he therefore divided the stomach into the pyloric and the œsophageal halves. It is quite true that this contraction in the stomach is met with as Meckel has mentioned,† and which I have often observed myself. But as this appearance, as well as I recollect, only shows itself in the female subject, and as Home has drawn it from one female body only, I regard it as immaterial, or at least deviating slightly from the usual state. I am greatly mistaken if it is not the effect of the tight lacing,‡ particularly from the pressure of the breast bone of the stays; for such a bone laced only moderately tight presses just on the middle of the stomach, so as to divide it into two parts. This machine, made either of wood, bone, or steel, works like every other mechanical irritation applied to any part of the living vicera. This must also be much more the case in the female stomach, as I have already remarked in my Splanchnology,§ as it is distinguished by its length from the broad roundness of the male stomach. But if such a contraction of the stomach belonged to its natural state, there must be a disposition to it, at least in some degree, apparent in the stomachs of children, in which, however, not the slightest trace of it is to be found.

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* Philosophical Transactions for 1817, part ii. Pl. xx. is evidently a rare malformation, either hereditary or the result of disease.

† Deutsches Archiv fur Physiologie, 4 Band. 1818, p. 130.

‡ Preisschrift uber die Schadlichkeit der Schnurrbruste, Leipzig, 1788. *See* Soemmering in the enlarged edition. Berlin, 1793.

§ In so far must C. G. Ackerman's Dissertatio de discrimine sexuum præter genitalia, Moguntia, 1788, "Intestinorum tractus nullum sexus discrimen ostendit," be altered.

The third observation on the human stomach concerns its lower end, or the *pylorus*. On examining the proper opening of the pylorus, which is most readily and easily done when the stomach is dry, and has been moderately distended with air, it generally appears more or less elliptical, seldom circular, consisting of a ring, occupied by concentric circles, which are different both as to their size and the direction which they take. Sometimes the pylorus, that is, the fold or ring which forms it, is broadest at the posterior surface of the stomach, and towards the anterior surface is narrowed in the form of a projecting fold. The longest diameter of this opening extends obliquely from before backwards; the smallest diameter, on the contrary, from above, downwards, or from the right to the left side, or the lesser to the larger curvature. Sometimes the ring of the pylorus is, on the whole, remarkably broader, and its opening somewhat smaller. It has, therefore, its greatest breadth on the smaller, and the largest on the greater curvature. Its elliptical opening appears with its longest diameter between the larger and less curvatures, with its smallest diameter, on the contrary, from behind forwards, or in the direction between the anterior and posterior surface of the stomach. Sometimes the ring of the pylorus is broader, and its opening proportionally smaller; then its greatest breadth is not on the small, but on the greater curvature, and the longest diameter of its opening extends not from the right to the left, but from the anterior to the posterior surface of the stomach. Sometimes the ring of the pylorus is proportionally to the size of the stomach, very broad, and its opening, at the same time, very small. Between these three or four remarkable differences in the form of the pylorus, its other varieties may properly be classed; but as we have an excellent monography on this subject from Leveling,* and a good description of this part from Haller, I will confine myself to the notice of a construction of the pylorus which was first discovered by one of my pupils, Scheuzer. This is a ring or circle of glands contained in the fold of this part, which, on the careful removal of the peritoneum and cellular membrane, may be shown. I have had the honour of showing this ring to the Academy, both in the natural state, and in two engravings. The natural size, the peculiar form, the true situation, the peculiar connection, as well as the line of demarcation marked out by it between the end of the stomach and the commencement of the duodenum, may be best seen in a preparation which has been kept in spirits of wine, and will then be so clear as to supersede, now, on my part, a more detailed description. F. Magendie distinguishes† in the stomach *la partie splenique* and *pylorique*. At the pylorus, he says, the mucous membrane forms a circular fold, called the *pyloric valve*, and that a fibrous dense tissue is

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* Diss. inaug. sistens Pylorum anatomico-physiologia consideratum. Argentorati, 1764.

† Precis Elementaire de Physiologie, tom. ii. Paris, 1817, p. 72.

found between its plates, called by some authors* the *pyloric* muscle. This valve of the pylorus serves both to prevent the return of the matter contained in the duodenum into the stomach, as well as to keep the food and chyme in this viscus.—*Ed. Med. and Sur. Jour.*

Case of a New Born Child, in which the Brain and the greater Part of the Cranium were wanting. By JAMES GUTHRIE, Surgeon, Kilmarnock. —The mother of this child, who is of a delicate habit, complained of great distension of the abdomen during the latter months of pregnancy. "She often felt," to use her own words, "as if she would burst." The motion of the child was unusually strong and vigorous. I was called to attend her on the morning of the 3d December 1825. The *liq. amnii* had been unexpectedly discharged previous to my arrival, in an enormous quantity. It was said to amount to several pints; and, from what I observed, this calculation may be considered correct. On examination, the *os uteri* was found dilated to the size of half a crown. Uterine action not having fairly commenced, I for the present left her.

At 11 o'clock I was again requested to attend her. Examination now discovered an elastic tumour of an irregular shape in the vagina. On pushing the finger past it, I felt the occipital bone, and one ear, which convinced me that the head of the child presented. After two hours of severe labour, this extraordinary head was expelled. At this stage uterine action almost totally ceased, the body remaining for upwards of an hour in the vagina. The motion of the child was remarkably violent during this period. In order to hasten delivery, I attempted to bring down one of the arms by pulling at the wrist. This, however, I could not accomplish, though I used considerable force. During these attempts she complained much of pain. I next introduced two fingers along the neck of the child in search of the arm-pit. This I soon reached, and having fixed one of the fingers in it, I began extraction, which required considerable force. Uterine action was at last excited, and the delivery was soon accomplished. The placenta was easily extracted.

The child lived only an hour and a half. It appeared destitute of the power of voluntary motion. Respiration was performed by a convulsive effort. This was particularly observed during inspiration.

Dissection.—The tumour on the head presented externally the mulberry colour, and was of an hemispherical form. It felt soft and elastic to the touch. On the summit a number of large vesicles were observed, which, on being punctured, discharged a considerable quantity of serous fluid. The cavities from which this fluid issued, did not communicate with the cra-

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* Magendie mentions the name of no individual author, but probably alludes to Abernethy. *Vide* Physiological Lectures, London, 1817, p. 178.

nium. Internally this tumour presented the appearance of sarcoma, but was much more elastic. It was very vascular, and contained a considerable quantity of dark-coloured blood.

On examining the cranium, it was found, that the scalp, the *os frontis*, the parietal, and a great part of the occipital bones, were wanting. Indeed, the cranium appeared as if sawn directly across from the superciliary ridge to the protuberance of the occipital bone. The remainder of the cranium was covered by the scalp, and lined internally by the dura mater. This last membrane did not extend farther than the bone, at least no appearance of it could be observed in the tumour. This remarkable tumour adhered firmly to the scalp and the dura mater. On its removal, a large quantity of serous fluid escaped in a full stream, apparently from the base of the cranium. The *sella turcica* was unusually prominent. I observed part of the *tentorium* entire; but no vestige of cerebrum or cerebellum could be detected after the most minute inspection. Circumstances prevented me from examining the spinal marrow. The cranium was much thickened; and from the deficiency of bone, the eyes appeared to project much more than usual.

In conclusion, I am disposed to consider the above case as one of malformation, connected with a dropsical state of the ovum.—*Edin. Med. and Sur. Jour.*

Experiments on Poisoning.—M. SEGALAS communicated to the Academy of Medicine the result of some experiments made by him, tending to prove that poisons rather produce their effects through the medium of the vessels than of the nerves. The following is the result of his researches:—

1st. Having cut the spinal marrow of an animal, so as to render it paralytic, and having placed some alcoholic extract of nux vomica in the paralysed parts, he perceived that tetanus came on just as quickly and powerfully as if the nervous system had been entire.

2d. Having, on the contrary, left the spinal marrow untouched, but prevented the blood which returned from the part where the poison had been lodged from being carried to the heart, he observed that the poisoning did not take place.

3d. Tetanus appeared to come on equally quickly when he injected the poison into the bronchiæ, although the eighth pair of nerves were divided.

4th. The nux vomica placed in the thigh of an animal rendered paralytic by the division of the spinal marrow, produced tetanus not only in the trunk and upper extremities, but also in the paralysed parts.

5th. The same result takes place in whatever part the poison has been placed; only the contraction of the paralysed muscles is slower, and seems only to occur in proportion as the blood conveys the poisonous matter to the nerves which animate them.

6th. Having injected the poison into the crural artery of a paraplegic animal, its effects were manifested in the like manner: the convulsions

commenced in the thighs, and only became general after the lapse of time judged to be necessary for the conveyance of the poison to the spinal marrow.

M. Segalas concludes from his experiments, that the voluntary muscle can contract themselves, in certain cases, independently of the action of the spino-cerebral system.

In these experiments, M. Segalas has often designedly made the division of the spinal marrow at different points, but most commonly on a level with the last vertebræ of the neck, or the first of the lumbar vertebræ; and this has produced no modification of the phenomena.—*London. Med. and Phys. Journ.*

PATHOLOGY.

Tetanus—Singular mode of treating this Disease at the Tonga Islands.—Tetanus, we are told, is a complaint very frequently met with in the Tonga Islands,* where it arises, most generally, from wounds and other injuries received in battle.

By the inhabitants of these Islands the disease is termed *gita;* and they have remarked, that it more frequently follows punctured than incised wounds; and wounds of the extremities, particularly of the hands and feet more than those of other parts.

Among the principal *exciting* causes they particularly enumerate sudden alarms, the stimulus of venereal desire, and the common operations of washing and shaving, and cutting the hair and nails. In cases, therefore, where there is reason to apprehend an attack of this disease, the patient is carefully watched, females are rigorously excluded from his presence, and the above operations are entirely dispensed with, and this often even for months.

When, notwithstanding all their care, the disease does occur, their mode of treating it is very singular, and, at the same time, more successful than any in use among us, if credit can be given to the accounts we have received of it.

This mode consists in producing a considerable degree of irritation in the urethra, and a discharge of blood from that part, which is generally effected by introducing a reed of a proper size, for some distance into the passage. Sometimes, however, (as in the more violent cases,) a double thread is passed down to the perinæum over the end of the reed, and there cut out, so as to convert the entire of the passage into one long seton. When this is the case, one extremity of the double thread hangs, of course, from the natural opening of the urethra, and the other from that made in the perinæum; and the thread being occasionally moved to and fro in the passage, great pain and irritation, and an abundant discharge of blood, are thus easily produced at pleasure.

Our author states, that he twice had himself an opportunity of seeing

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* A cluster of islands in the South Pacific Ocean, called Friendly Islands by Captain Cook.

this latter operation performed for the cure of tetanus, and each time with success.

In both cases the disease supervened upon a wound in the foot, made by an arrow not barbed; in both, the symptoms came on suddenly, and within three or four days after the wounds were received; and in both, the spasms are stated to have been extremely violent, and to have extended over the whole body; in neither, however, was the jaw *permanently* locked.

In case the operation was performed, we are told, as soon as the nature of the disease became distinctly marked; and in both it was followed by speedy and permanent relief. In one of the cases, the thread was withdrawn (the symptoms having all subsided) on the second or third day; in the other on the fourth or fifth. In both cases considerable pain and swelling of the penis came on after the operation; but these symptoms yielded without difficulty, in the course of a few days; and the opening in the perinæum also healed up in each without any trouble.

Observations.—Although the work to which we are indebted for the particulars given in the preceding detail* has been for years before the public, yet we are not aware of the singular practice here described having been hitherto noticed in any publication strictly professional. We have been induced, therefore, to draw up this short article in the hope of exciting some attention on the part of our brethren to the subject; for the opinions and practices of a people whose medical knowledge is derived entirely, it may be said from observation, are not in a case of this kind to be despised.

Every fact, indeed, calculated to enlarge, in any manner, our knowledge with respect to the treatment of a disease so generally fatal as traumatic tetanus, is deserving of attention: and persons, therefore, who may not be inclined to adopt exactly the Tonga mode of proceeding in this disease, may yet find in it matter for useful reflection, and derive from it hints, perhaps, for a better mode of practice than any at present in use amongst us.

We may add, that there is no good reason to doubt the accuracy of the account given by Mr. Mariner on this subject; for although not a professional man, he was yet, from various circumstances, well qualified to profit by the opprotunities for observation which his situation afforded him.—*Lon. Med. Repos. and Rev.*

Melanosis of the Stomach. (*Archives Générales de Medecine, Mars,* 1826.)—It has been shown by several remarkable cases, that this singular disease is by no means confined to the lungs, but pervades various textures of the body. The following, however, is the first instance in which it has been observed in the stomach. The particulars prove, that in this situation, as in others, it is so far from being a malignant disease, that it may even exist without any obvious symptom whatever.

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* Mariner's Account of the Tonga Islands, edited by Dr. Martin, 2 vols. 8vo. London, 1818.—Vide vol. 2, p. 241.

A woman, about fifty years old, died under Lerminier's care at the Hospital of La Charité in Paris. She was admitted on account of a general dropsy and ascites, which appeared to be independent of any affection of the heart, liver, or other important organ. It commenced with anasarca of the limbs, and advanced very slowly; and her breathing was not affected till the belly became distended. During the six weeks she past in the hospital before her death, the dropsy continued without change, she got gradually weaker and weaker, and at length she had occasional purging, and great disinclination for food. She had no pain in the stomach, however, no vomiting, and nothing unnatural in the state of the tongue. The heart was natural; the lungs gorged posteriorly, but otherwise sound; the liver healthy; the thoracic duct was free, and contained the usual serosity. The spleen, pancreas, mesenteric glands, and urinary organs were all of natural appearance. The stomach contained three glassfuls of a liquid as black as ink, which stained paper like the colouring matter of the choroid coat of the eye. The surface of the stomach, when washed, was seen studded with innumerable black spots of a circular or oval form, varying in size from that of a millet-seed to that of a shilling, confined to the mucous coat, and surrounded, at least the larger ones, with livid redness and greater firmness of the membrane. The interstices were of a pale whitish colour, as in the healthy stomach. Except around some of the larger spots, the villous coat was of natural consistence. There was nothing else worthy of observation in the whole alimentary canal. The appearances in the stomach taken together bore some resemblance to the effects of the concentrated sulphuric acid. Andral, the relator of this case, conjectures that the black fluid in the stomach must have been secreted very soon before death, if not after it, because, if the secretion had been going on for some time, the woman would have vomited some of it. It is singular that so extensive a derangement should exist without causing any symptom. It is hardly possible at least to connect the dropsical affection with it; and even the anorexia, the only symptom referrible to the stomach, might have arisen from the general depression of the system accompanying the dropsy.—*Ed. M. and S. Jour.*

Case of obstinate Vomiting, and supposed organic disease of the Stomach.—A very interesting narrative occurs in Dr. Carter's report, of the more important cases at the Kent and Canterbury Hospitals, published in the London Medical Repository. Mary Holland, aged 4, affected with vomiting of food soon after it was taken, burning pain at pit of stomach, and between the shoulders. Her complaints had subsided for two years. Her pulse was frequent and feeble: tongue clean; bowels constipated; catamenia regular. There was tenderness about the scrobiculus cordis; countenance was expressive of distress; palpitation and emaciation, temperament scrofulous. The patient had been bled, blistered, &c. She was again bled with leeches, took small doses of calomel, with ext. conii, oxyd of

bismuth with opium, gentle laxatives, and used the tartar emetic ointment. No relief. Pain and vomiting increased. Prussic acid—pil. hyd. submur. comp. decoct. aloes comp. sulph. of quinine in infus. rosæ comp. were successively tried. Dr. C. then tried ℞ Ext. flor .calcudulæ griij. pulv. glycyrrh. q. s. ut fiat. pil. tertia quaque hora sum. All other medicine was laid aside. Under this with occasional leeches and laxatives *relieved.*

Calendula (*Marigold.*) The organic affection of the stomach in this case is inferred from the constancy of the pain, the emaciation, and the appearance of the matter thrown up by vomiting. The event alone would seem to militate against such a conclusion.

The calendula is an ancient though almost forgotten medicine. It has been used with success to alleviate the pain of a scirrhus uterus. The preparation employed, was an aqueous extract of the flowers, 1lb. 2oz 3drs. 20grs. of the flowers, produced 1oz. 3drs. of aqueous extract.

SURGERY.

Treatment of Traumatic Erysipelas by Cauterization. (*Revue Médicale, Fevrier* 1826.) Baron Larrey has lately revived the practice, recommended towards the close of last century by Pelletan, of treating the erysipelas arising from wounds by the superficial application of the actual cautery; and he reports very favourably of the result of his trials. In the paper he has published, two cases are detailed at length, as examples of what has frequently occurred in his practice. In one, a gunner of the horse artillery, who had received a severe contused wound on the leg from a kick of his horse, erysipelas began to appear on the fifth day, and spread rapidly over the whole leg. On the eleventh day it had advanced far up the thigh; phlyctænæ had arisen around the wound; the limb was much swelled, of a violaceous colour, and benumbed; and he had all the constitutional symptoms usually developed in the dangerous cases of this disease. Compresses soaked with camphorated vinegar were applied over the whole limb. But next day the local affection was undiminished, and the constitutional disorder had increased to such a degree, that the patient could not articulate for weakness. The actual cautery was then resorted to, and little superficial cauterizations were made at convenient intervals on the affected parts of the limb, to the number of fifty. The moxa was likewise applied to the epigastrium! Next day the erysipelas was almost entirely dissipated, the swelling of the limb considerably reduced, suppuration re-established in the wound, and the fever very much abated. From this period he recovered rapidly, a piece of bone exfoliated, and the wound soon healed.—The second case was that of a soldier of the foot guards, who received a contusion on the head, with slight laceration of the skin, and was attacked with erysipelas around it on the fifth day. A crucial incision relieved him for a time, but the inflammation began to spread soon after, and in no long time occupied the whole nucha and shoulders. The usual fever also manifested itself, and increased rapidly. In this state of

matters Larrey had recourse to the actual cautery, and touched the inflamed parts lightly on forty points at proper intervals. Next day, as in the former instance, the erysipelas had almost disappeared, the suppuration of the wound, which had never been entirely suppressed, became much more abundant, and on the tenth day the swelling of the head had fallen completely. An exfoliation of the bone under the wound succeeded; but nevertheless, the man was dismissed cured in forty days. When the hot iron is properly applied, no permanent injury is caused; the cuticle separates as on the other parts which had been affected with the erysipelas, only it is a little thicker, and the skin is not marked by the slightest scar. Some observations are appended by the author on the mode of action of the remedy; but they are very crude and hypothetical. Though termed cases of erysipelas, we suspect the foregoing are examples of spreading inflammation of the cellular tissue.—*Edin. Med. and Surg. Jour.*

Aneurism of the Aorta, &c.—Fatal Case.—In the month of May or June last year, (1825,) a man, aged thirty-four, by trade a brick-maker, of temperate habits, tranquil disposition, apparently in good health, and married, became affected, without any known existing cause, with a small tumour in the left ham,* accompanied by pains in the knee, which for a time were mistaken for, and of course mistreated, as rheumatic, in one of our public hospitals.

On leaving the hospital, and discovering in some measure the cause of the pains, &c., he returned to his trade as a brick-maker, and continued at it until about the middle of the month of October, when the increased size of the tumour, the severity of the pain, and the inability of extending or resting his body firmly on the limb, compelled him to give up work, and apply for professional assistance.

As the nature of his disease was now very manifest (for the tumour, which lay in the hollow between the ham-strings, was large, firm, pulsating, and rather elastic,) and as there was nothing in the state or circumstances of the patient to forbid such a proceeding, the common operation for popliteal aneurism was performed upon him in his own house, by the reporter, (Mr. Arnott,) on the 28th of the same month (October).

The operation was performed, we are told, upon the patient as he lay in bed, and a single ligature (of silk) was employed, which was passed round the artery, before it penetrated beneath the sartorious muscle. No undue disturbance, therefore, was given to the parts at the time of the operation and the subsequent progress of the case was entirely favourable; so that by the beginning of December, the ligature had come away, the wound had closed up, the tumour had diminished to half its former size, and the patient had already begun to make some use of the limb.

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* The bones of this leg had, however, it appears, been fractured some years before.

About six weeks after this period, that is, on the 18th January (1826,) this man who had, it appears, been for some time going about, but had not yet returned to his usual employment, DIED suddenly whilst sitting at his own fire-side; and, as it would seem, without having experienced any previous distress, or intimation of danger.*

The body was examined, probably on the succeeding day; and the following is the report of the appearances met with, as given by Mr. Arnott—

Examination, &c.—'On opening the body, the pericardium was found to be distended with blood, separated, however, into coagulum and serum. On removing this, the heart itself was examined, which led to the discovery of a small *aneurismal swelling* of that portion of the aorta which is included within the pericardium, and where it is still covered by fat, continuous with that of the heart. This swelling was not very prominent, and was similar in size, and somewhat in shape, to that of half of a small walnut.

'A spot, the size of a split pea, on the surface of the swelling, was of a dark colour, owing to the thinness of the parietes at this place; and in the centre of this spot was a minute aperture, barely sufficient to admit the point of the blow pipe, through which the blood had proceeded, which, filling the cavity of the pericardium, and oppressing the action of the heart, had produced the patient's immediate death.†

'The limb, which had been the subject of operation, was next examined, and the artery removed from the groin to below what remained of the aneurismal tumour.

'The ligature had been thrown around the vessel an inch and a half below the origin of the profunda. Its situation was indicated by an indentation; and on stretching the tube, the two portions of artery were seen to recede a little at this place from each other, leaving a narrow space between them, which was seen to be transparent, and where the continuity of the two was only kept up by means of cellular membrane.

'The obliterated portion of the artery was not quite an inch in extent; that of the upper extremity of the vessel measuring five-eighths of an inch in length, that of the lower a little more than two-eighths. The ends of both were firmly united and consolidated. The plug in the upper portion terminated superiorly, precisely on a level with a small branch going off from the trunk of the vessel.

'Below the obliterated portion, the artery preserved its natural size, and was quite pervious all the way down to the aneurism; and at one place where it was opened was found to contain fluid blood. Opposite to the

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* He had been sitting with a friend who had quitted the room for a few minutes, we are told, ('not more than three minutes,') and on his return found him dead.'

† This explanation is not, we may observe, very satisfactory: through an opening so small the blood must have escaped into the pericardium very slowly and gradually, whilst the death of the patient was sudden and instantaneous.

aneurism the artery again became impervious, and for the extent of upwards of an inch.

'What remained of the aneurismal sac was of the size of a hen's egg: it formed an abrupt tumour on the vessel. The contents were solid, densely laminated coagula of blood; the section presenting lamellæ of uniform colour and consistence.'—*Lon. Med. Repos. and Rev.*

OBSTETRICS.

Of Twin Births.—M. Duges, in the Revue Médicale for March 1826, has given some interesting observations respecting 'accouchemens multifares,' which we can only translate by circumlocution, viz. the production of twins, or more at a birth. He commences by assigning the term accouchment for the whole phenomenon, and parturition for the action which gives birth to an infant. In this division of terms, we shall follow him for its convenience.

'From a review of registers at Paris, out of 37,441 accouchements there have been 36,992 parturitions; 444 twins; 5 triplets.

'*Sexes.*—Out of fifty-four twin cases, taken at hazard, five have given a boy and a girl; thirteen, two girls; and twenty-six, two boys; this last proportion, which is one-half of the whole, seems to be the most common. In two triplets, observed by M. La Chapelle, in one there were three girls and in the other, two girls and a boy.

'*Volume and Weight.*—Twins are generally smaller than infants which are alone in the womb. The average weight of twins is four pounds each, and the extremes are three pounds and eight pounds, so that the same total weight remains. Triplets have rarely a less weight than twins, provided they are not born prematurely.

'*Dispositions of the Envelopes.*—Sometimes the twins are contained in one membranous envelope only, and are bathed in the same waters; but this is a very rare case. Madame La Chapelle has never observed it; and both twins and triplets delivered by her have been each in a separate sac, and divided by an union of the two chorions and the two ammios. The epichorion is simple, and surrounded by both sacs. In some cases, the chorion does not make a part of the division; and there is but one for both fœtuses. Dr. Duges himself, however, has never met with this disposition of the membranes. The placenta is more frequently single than otherwise; the proportion has been almost as three to two. Moreover, we mee with every variation of union, from single contact to complete union, without even a line of separation being visible; so that sometimes there is an anastomosis of the vessels of one fœtus with those of the other; and sometimes the anastomosis does not exist. When it is present, it is not by means of the capillary system; for, in the same placenta, even the capillaries of one cotyledon do not communicate with those of the other. The anastomosis is always effected by large vessels, such as ramify on the fœtal surface of the placenta.

'*Position.*—In comparing the position of twins, out of fifty-four accouchements, in thirty-six the infants have presented the same part to the mouth of the uterus, as the head, the buttocks, &c.; eighteen presented different parts, as one the head, another the shoulder, &c. In this last case, it was not always the first-born which exhibited the most favourable position.—*Lon. Med. Repos. and Rev.*

Case of Recovery from Rupture of the Uterus. By LEWIS FRANK, Physician and Counsellor to the Dutchess of Parma. (*Annali Universali di Medicina, Febbr.* 1825.)—A woman, 44 years old, in her sixth pregnancy, was taken with labour pains at the usual time. While standing, with the assistance of the midwife, she was suddenly seized with faintness and vomiting; and while her husband and the midwife were assisting her into her bed, she complained of a sense of tearing in the belly, and a feeling as if there were two fœtuses. The belly soon began to swell, the vomiting recurred frequently, and the breathing became interrupted. Professor Rossi being called to see her, recognised a rupture of the uterus, and after consulting with some of his friends, proceeded to extract the child by the operation of gastrotomy. The incision was made on the left side of the hypogastrium where the feet could be felt, and in no long time the fœtus and secundites were extracted. The child gave some signs of life, but soon expired. Forty days after the operation, the woman was restored to a state of perfect health, except that she had a hernial tumour of the size of a large apple in the seat of the incision. Three years afterwards she became again pregnant, and brought forth a seven-month's fœtus, which lived fourteen days.—*Edin. Med. and Surg. Jour.*

MATERIA MEDICA.

Effects of the Juice of the Manchineel. (*Archives Generales de Medecine, Mars* 1826.)—Many fabulous accounts have been given of the effects of the juice and aeriform emanations of the manchineel, (*Hippomane mancinella*) and latterly it has been supposed to possess the power of acting both as a narcotic and as an irritant poison. The following experiments by Orfila and Ollivier prove that it is a pure irritant, and that it is the most energetic of all the vegetable irritants. It has a faint taste, succeeded by a sense of acridity, and afterwards by a sense of burning and very unpleasant constriction in the back of throat, lasting sometimes a whole day, and excited by the smallest drop. It has no effect on the skin of the hands; but if put on the cheek, it causes an erysipelatous redness, with slight swelling and continued itching, succeeded in a day by miliary vesicles, which desquamate in three or four days. When applied in the quantity of a drachm and a half upon the skin on the inside of the thigh of a small dog, it did not seem to cause much pain; but the animal limped with the leg to which the poison was applied. In an hour he appeared downcast and soporose, but could be easily roused; he then had some vomiting;

the weakness increased rapidly, so that he was soon unable to stand; the tears ran over the face, the respiration became quick and feeble, and he died in about twenty-four hours, without having experienced convulsions, and apparently without, at any time, suffering pain. Five or six drops introduced into a wound killed guinea-pigs in the same manner. After death marks of inflammation were always found in the cellular tissue, extending over the whole abdomen and back as high as the middle of the chest; the tissue was injected, friable, and infiltered with serum. The abdominal and thoracic organs were healthy, and so was the brain. When introduced into the stomach in the dose of a drachm, it speedily caused vomiting, and the animal became dejected and wearied, and uttered at intervals a plaintive cry. Diarrhœa succeeded in an hour. The weakness and dejection gradually went on increasing; and death took place in about twelve hours, without any sign of an affection of the brain. The stomach and great intestines contained a large quantity of red matter, like the dregs of red wine, and a small quantity was likewise contained in the small intestines. The stomach, duodenum, and great intestines, had a reddish black colour internally, arising from excessive injection of their vessels. The jejunum was hardly affected; but the ileum had a cherry red colour, which increased in depth towards the colon. When half a drachm was injected into the jugular vein, the animal died in two minutes, and the blood in the heart was found coagulated soon after death.

These experiments prove that the juice of manchineel is a pure irritant, and that it should be ranked at the head of the vegetable Acrids. The effect produced by its application to the skin or a wound, furnishes the purest example of spreading inflammation of the cellular texture.—*Ibid.*

On the use of the Pomegranate Bark as a remedy for Tænia. (*Hufeland's Journal der Practishen Heilkunde, August* 1825.)—Dr. Wolff of Bonn has published some good cases, exemplifying the efficacy of the bark of the root of the pomegranate in obstinate tænia. This remedy was proposed not long ago in a paper in the London Medico-Chirurgical Transactions, by Mr. Breton, who borrowed the practice from the natives of Hindostan; and since then it has been successfully employed by Dr. Gomés of Lisbon. Dr. Wolff has given it in ten cases. In three it was eminently successful; in five it had little or no effect; in the two others the existence of the disease was doubtful. He says it has the advantage over oil of turpentine,—the most efficacious of the remedies yet proposed,—in being quite harmless, and not nearly so disgusting, in producing its effect with great rapidity, and in not requiring any preparative treatment. He generally used a decoction made by boiling to 12 ounces an ounce of the half dried bark in 24 ounces of water; and of this he gave in the morning two ounces every half hour, as directed by Mr. Breton. Some vomiting occasionally took place before the requisite quantity was taken; but, on intermitting the medicine for an hour or two, the stomach bore it better. In

one case, after six doses were taken, the patient had six fluid stools, and a worm was discharged *alive*, measuring seven Cologne ells. Several fragments followed, and on the same day the patient felt quite well. In the second case, the remedy was twice tried unsuccessfully ; but on trying it again in stronger doses, the same effects followed as in the former instance. In the third the good effects were obtained with the first doses. In all, the action of the remedy was accompanied with nausea, and sometimes with vomiting,—symptoms, however, which Dr. Wolff ascribes not to the remedy, but to the agitation into which the worm is thrown. In the five unsuccessful cases he suspected the bark was not of such good quality as the first sample he procured, the plant having been more sickly, and having flowered before the bark was gathered. But his want of success he is rather disposed to attribute to the remedy not having been given at a time when the worm is most irritable, and therefore most easily acted on. He says he has observed that remedies are always most likely to succeed if given at the time when fragments of the worm are discharged naturally ; and supposes that at this time it undergoes some change, during which it is more sensible to external agents. In one of the unsuccessful cases it operated partially, causing the protusion from the anus of two ells of the worm. Various poisons were applied to this portion with a view of killing the animal, but without avail. Even in the concentrated Prussic acid it was observed to contract and elongate itself, and no injury was produced.—*Ib.*

Examination of the Question, whether the Medical use of Phosphorus internally is useful, injurious, or equivocal. By PIETRO MOSCATI. (*Annali Universali di Medicina, Lugl.* 1825.)—Several attempts have been made to introduce this substance into medicine, particularly in Germany and Italy ; but great doubts have justly been entertained by some of its safety, and by others of its efficacy. The observations of Moscati will account for the discrepant results which have been obtained by different individuals. He sets out with remarking, that, as phosphorus possesses the power of burning, at a low temperature, in air, and in some other gases containing oxygen, there can be little doubt that it must also sometimes catch fire in the stomach ; that as the aeriform fluids in the stomach sometimes do not contain any gas capable of supporting its combustion, it may escape acidification, and that these two circumstances will account for its acting sometimes merely as an active stimulant, sometimes as a corrosive poison. In the way in which it has usually been administered, it exists generally in its simple state. For he has found that when reduced to fine powder by agitation in boiling water, and then made into an electuary, or when given in solution in alcohol and ether, it continues in the state of phosphorus. Some physicians have observed it to have no effect at all, either as a poison or as a remedy. The reason is that, when dissolved in alcohol or ether, it separates, in a short time, almost entirely in the state of fine powder; so that there can never be any certainty of the dose, if the solution is

not recently made. For these reasons he suggests that it ought to be discarded from medical practice altogether.—*Ib.*

MEDICAL JURISPRUDENCE.

Account of Prof. BERZELIUS's *Method of detecting Arsenic in the Bodies of Persons poisoned.*—Prof Berzelius has lately given some instructions for the discovery of arsenic in persons that have been poisoned with it. He considers *the reduction of arsenic to the metallic state as the only incontestable proof of the presence of this poison.* Arsenic may occur in two ways, —viz. when it is found in substance (in the state of arsenious acid) in the dead body, and when is is not found in this state ; though the intestines of the dead body may contain it in the state of a solution.

In the first of these cases, it is easy to determine the presence of arsenic. In order to do this, take a piece, about three inches long, of an ordinary barometer tube, and having drawn out one end of it into a much narrower tube, close the end. Let some of the arsenic found in the body be now put in at the open or larger end, so that it may fall down to the bottom. Any quantity of this arsenic, of sufficient volume to be taken from the body, will suffice for this purpose. The arsenic being at the bottom of the small part of the tube, a little charcoal is let fall upon it, after it has been freed from all moisture by bringing it to a red heat with the blowpipe. The charcoal is then heated in the tube at the flame of a spirit-lamp, the point where the arsenic lies being held out of the flame. When the charcoal is very red, the point containing the arsenic is drawn into the flame. The arsenic is then instantly volatilised, and, passing into vapour by the red charcoal, it is reduced, and reappears on the other side of the flame in a metallic state. The flame is then brought slowly towards the metallic sublimate, which is thus concentrated into a smaller space in the small tube ; and then presents a small metallic ring, shining like polished steel.* We have now only to verify, by its smell, that the metallic sublimate is arsenic. For this purpose, cut the small tube with a file a little above the sublimate, and, having heated the place where it lies, put the nose above it at a small distance, and the particular ordour of the metal will be immediately perceived.

In the case where the solid arsenic cannot be found, we must collect as much as possible of the contents of the stomach and the intestines, or even cut the stomach in pieces, and mix it with its contents. The whole is then to be digested with a solution of hydrate of potash. Hydrochloric acid is then added in excess. The whole is filtered, and, if the liquor is too much diluted, it is concentrated by evaporation. A current of sulphuretted hydrogen is then passed through it, which precipitates the arsenic in the form of the yellow sulphuret. If the quantity of arenic is very small, the liquid

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* Had the experiment been made in the wide part of the tube, the result would scarcely have been visible with a small quantity of arsenic.

will become yellow without giving a precipitate. It must then be evaporated: and, in proportion as the hydrochloric acid becomes more concentrated, the sulphuret of arsenic will begin to be deposited. It is then filtered. If the sulphuret remaining on the filter is in too small a quantity to be taken from the paper, add some drops of caustic ammonia, which will dissolve it. Then put the liquid which passes the filter into a watch-glass, and evaporate it. The ammonia will be volatilised, and will leave as a residue the sulphuret of arsenic. If it shall still be difficult to collect the sulphuret, we must put into the watch-glass a little pulverised nitrate of potash, and with the finger, mix the sulphuret with the nitrate of potash, which detaches it from the glass. At the bottom of a small phial, or a piece of glass tube, shut at one end, melt a little nitrate of potash at the flame of a spirit-lamp, and introduce into it, when melted, a little of the mixture which contains the sulphuret of arsenic. It is oxidised with effervescence, but without fire or detonation, and without loss of arsenic. The melted salt is then to be dissolved in water, and lime added in excess, and the liquid boiled. The arsenite of lime will then be deposited, and may be collected. When dried, it is mixed with charcoal, and then brought to a red heat by the blowpipe; and a small quantity of this mixture is allowed to fall to the small end of the above-mentioned tube. It is now gradually heated to expel all humidity which tends to throw it into the wide part of the tube; and, when it is very dry, heat, at the flame of the blowpipe, the part of the tube which contains the mixture. The arsenic will be disengaged, and be sublimed at a distance from the heated part. An addition of vitrified boracic acid greatly promotes the decomposition which then takes place at a less elevated temperature; but the acid frequently contains water, and produces a bubbling of the melted matter, which raises it in the tube, and causes the vapours to issue by perforating the softened part of the glass.

M. Berzelius maintains, that the *sixth part of a grain of sulphuret of arsenic is sufficient to make three different trials;* but he adds, that, when we have discovered only very small traces of arsenic, we must take care not to introduce any by means of re-agents, among which, both the sulphuric and the hydrochloric acid may contain it. The first almost always contains some arsenic when it is manufactured from volcanic sulphur; and the second, in consequence of sulphuric acid being used in the preparation of hydrochloric acid, yields the arsenic which it contains in separating it from soda. We must, therefore, be certain of the purity of these re-agents.

When death has been caused by the arsenic, and not by the arsenious acid, the process must be modified, because the sulphuretted hydrogen gas decomposes the arsenic acid too slowly. In this case, we must add hydrosulphuret of ammonia, which reduces the arsenic acid to the state of sulphuret, which is afterwards precipitated by the hydrochloric acid.—*Lon. Med. and Phys. Journ.*

Marks of Vitality in New-born Infants.—It was in pursuing these researches that Dr. BERNT hit upon an observation, which, if correct, will establish the distinction of an inflated from an uninflated lung, upon the most solid foundation. He seems himself to consider it as an almost infallible test.

The circulation of a child undergoes an extensive revolution the moment it breathes, and the placental subsidiary action becomes suspended. The blood arriving at the liver by the umbilical vein, is withdrawn from that organ, which ought to be rendered so much lighter by its abstraction; and the lungs, by the blood of the ductus arteriosus flowing through them, must have become proportionally heavier. The mere examination of these circumstances in a new-born child, will go far to determine whether it has breathed: but the test which he chiefly rests upon, is the appearance and situation of the opening of the foramen ovale. *This hole, in a child which has never breathed, is exactly in the bottom of the fossa ovalis; but, as soon as the child has breathed, the aperture becomes turned towards the right;* in several weeks, it has ascended *very high;* and, in adult age, is found to have arrived at the *summit of the oval.* In other words, from the moment respiration commences, the aperture of the foramen ovale begins to travel from the lower extremity of the oval hole towards the upper, proceeding from *left* to *right*: and the degree of advance it has made, becomes an index of the existence and duration of the respiratory process.

This semi-revolution of the aperture around the centre of the axis of the foramen ovale, after birth, so important in an anatomical and physiological, as well as docimastic, point of view, is in some degree hinted at by our countryman, Dr. Humphry Ridley, (*Observ. de Cord. Embryon.* Lugd. 1750, at p. 180—4;) but afterwards more fully developed by Dioboltd, in 1771.

The reason of the phenomenon, Dr. Bernt conjectures to be the contraction of the muscular fibres of the isthmus Vieussenii; but we are ourselves inclined to attribute it rather to the diminished resistance offered after birth, to the stream of blood projected from the right ventricle, and the consequently increased resistance to that which is simultaneously sent from the left. It is known that accumulation in the right ventricle generates also an accumulation of blood in the right auricle, and even in the venæ cavæ which opens into it. As long as this state continues, the lower cava, aided as it is by the placental contribution, will be predominant; and, ascending from below, will keep the valve of the oval hole from adhering to the edges, from above downwards; or, in other words, will preserve the aperture at the bottom of the fossa. But, as soon as the aortal resistance is withdrawn from the right side of the heart, by respiration, and the placental supply from the lower cava, by obliteration of the cord, the equilibrium becomes almost perfect between the ascending and descending cava, in the infant; and the centre of their joint impulse must be brought up near, or

beyond, the central diameter of the oval hole. The valve, however, can only be displaced gradually in this direction; and, accordingly, it is not before the adult age that the aperture arrives at the top of the valve. This ascent is much assisted by the preponderance of the left ventricle, which, re-acting against the whole resistance of the circulation, lessens the angle of position of the axis of the right heart to the axis of the hollow veins, and thereby the line of pressure upon the oval hole, in the direction upwards. At all events, whatever is the theory, the fact is most valuable; and we consider both the docimastic methods above adduced, as affording simple, easily practicable, and therefore most valuable, additions to the jurisprudential part of our profession; and to that part of it which is never exercised without great hazard of the reputation, and certain laceration of the feelings, even to the most conscientious practitioners.—*Ib.*

Case of Recovery from Poisoning with Sulphuric Acid. (*Horn's Arch. Mai and Juni* 1825. p. 454.) A female servant, 19 years of age, in a fit of passion, swallowed the concentrated sulphuric acid. She was immediately seized with great weakness and such acute pain in the stomach, that she cried aloud for help. A physician was immediately procured. An hour after she swallowed the poison, he found her speechless, with an almost imperceptible pulse, frequent fainting fits, paroxysms of trismus, difficult and convulsive deglutition, and instant vomiting of every kind of drink. She gave him to understand that she did not suffer much pain, but she had apparently resolved to conceal her sufferings with a view of concealing their cause. The tongue, inside of the cheeks, uvula, tonsils, and back of the fauces were yellowish white and wrinkled, the teeth surrounded by a black circle, and the lips yellow-coloured. The stuff she vomited was black, like a mixture of sulphuric acid and blood, and it corroded linen cloth and leather. At midnight she confessed the cause of her illness; and then a solution of soap, chalk, milk, oleaginous matter, and farinaceous decoctions were given in profusion. Afterwards magnesia was given along with opium, and the stomach was fomented with a mixture of spiced vinegar and laudanum.

On the morning of the second day, her resolution to die was worn out by her incessant agony. She tossed about in bed, complaining of dreadful anxiety and excessive weakness, bewailing her unhappy fate, and the shameful and horrible death to which she had doomed herself, as she thought, without recourse. The matters of vomiting were no longer acid, but she felt violent pain in the stomach and bowels, and a sense of burning in the throat; and the belly was tense, swelled, and tender; the inside of the mouth and fauces was covered with yellow spots, which were black in the middle, and vivid red on their margin, and the lips were dry like parchment. She was also still affected with frequent locked-jaw. The pulse had risen somewhat, the cheeks had a hectic flush, the urinary secretion was very scanty, and the bowels constipated. She had a horror at every

kind of food and drink; and her medicines and diluents were administered by force, the teeth being kept apart during the attacks of trismus, by pledgets of leather. The tetanic affection likewise extended to the arms. On this account it was impossible to bleed her, as her physician desired. Leeches, however, were applied to the epigastrium. Fomentations with poppy-juice were then applied to the bites, and blisters were put on the calves.

On the third day the symptoms were somewhat mitigated. She vomited several lumbrici, which were dead, and partly corroded by the acid. On the fourth, the pulse was fuller; she had frequent purging of a yellow matter, mixed with clots of blood. The belly then became relaxed and less tender, and the urine flowed freely. Warm bathing was resorted to, and the anodyne fomentations continued. On the fifth she was much exhausted, and the pulse feeble; the lining membrane of the mouth separated here and there, as also the cuticle of the skin. Constipation having returned, calomel was ordered by the mouth, and injections of assafœtida and Glauber's salt. These remedies caused many evacuations mixed with clots of blood, streaks of purulent matter, and fragments of the villous coat of the intestines, (a pseudo-membrane.) Aromatic baths and emollient clysters were ordered. On the seventh, in consequence of some mental irritation, she had an attack of epilepsy, succeeded by delirium. She gradually got better, however, and in fourteen days from the commencement she was quite convalescent. The reporter adds, that before this accident she was passionate, revengeful, and quarrelsome; but was vastly improved in these respects afterwards, as well as in her general health.*—*Ed. Med. and Surg. Jour.*

Domestic.

Three cases in which operations for securing the common Carotid Artery have lately been performed.—By George M'Clellan, M. D.—In the months of May and June last, I performed three operations for securing the common carotid artery.

Case I,—Was a little daughter of Mr. West of Bristol, aged nine years, with an enormous *aneurism by anastomosis;* which, covering the whole of the

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* Mr. Ker, junior, of Paisley, whose very convenient apparatus for operating on small quantities of gases, is described in the 10th Volume of the Edinburgh Philosophical Journal, recommends that, to prevent accidental poisoning with this acid, all the sulphuric acid kept by druggists and apothecaries should be coloured blue by the addition of indigo, by which means it could not be mistaken for any other fluid. The quantity of indigo for this purpose is so small that it has no effect on the medical virtues or chemical properties of the acid.—Editor.

left cheek, extended from the temple and eye of the same side to within two inches of the clavicle, and from the tube of the ear, which it filled, to the nose and mouth. The left nostril was closed by the disease; the tongue, soft arches of the palate, and tonsil of the same side, together with both lips, were also invaded by it and distended to an enormous size. The integuments were very thin and discoloured from the appearance of the diseased vessels underneath; and the whole mass pulsated actively and tumefied, whenever the patient was excited. The difficulty in performing this operation was very great, owing to the extension of the disease down the neck; but the common carotid was, notwithstanding, secured by a single ligature opposite the lower end of the thyroid gland. The ligature came away in fourteen days, and the tumour has since been gradually diminishing. It has already left the throat, ear, nose, and upper part of the cheek.

Case II,—Was a lad sixteen years old, in York, Pennsylvania. He had been thrown from a horse, three years ago, when he fell upon the right side of his head and received a severe concussion. He was afterwards afflicted with epileptic attacks; and, about twelve months ago, the left side of his body began to be paralysed. At the same time a hard tumour was discovered, just above the right ear, which continued to increase ever after. Most excruciating pains were unremittingly experienced in the situation of this tumour, and no relief could ever be obtained from the most active mode of treatment. The scalp was first divided, and carefully dissected from the surface of the tumour; when it was ascertained that a large and vascular fungus had begun to protrude through the bone in two separate points. This, no doubt, proceeded from the subjacent surface of the *dura mater;* and, as the meningeal artery of that part holds but few anastomoses with the surrounding vessels, it appeared reasonable to suppose that relief might be obtained by obstructing the circulation through that side of the head. The right carotid artery was therefore secured by two ligatures just below its bifurcation; and the wounds were dressed in the ordinary way. In about two weeks the ligatures came away spontaneously, and the patient was walking the streets. The tumour had diminished very much in seven days after the operation, and since that time has still further decreased. Dr. Macilvain writes that "the patient has remained entirely free from pain ever since the operation," "that his general health is greatly improved," and that "the paralysis is regularly diminishing."

Case III,—Was the daughter of Mr. J. Fryburg, of Spring Garden, five years old. When she was six months old a small and discoloured tumefaction was discovered in her left eye-lids, which continued to increase ever after, notwithstanding the use of leeches, low diet, lead water compresses, &c. In the month of May last, it had filled the whole orbit, so as to protrude the eye very much, and to tumefy the lids exceedingly. It was subject to alternate "risings and fallings," as the parents observed, during which the eye-ball would project and retire in a remarkable manner.

On pressing on the lids, the whole of the contents of the orbit could be felt pulsating, or rather rolling like a mass of small worms, so that no doub

respecting the nature of the disease could exist. It was evidently an aneurism by anastomosis of an active character. On the 10th of June, I therefore exposed the left carotid just below its bifurcation, which in this case was nearly one inch lower than natural, and tied it with a single ligature. The patient, although very unruly, did well; and on the fourteenth day the ligature came away. The tumefaction of the lids has now almost disappeared, except at the inner corner of the lower lid, where it covers the lachrymal sac. The globe of the eye has also retired into the orbit almost to its natural depth; and no pulsatory movements can ever be discovered under the pressure of the fingers.

Of the difficulties which I encountered in performing the first and third of these operations no one who was not actually present with me, can ever form an adequate idea. A child cannot be prevented from attempting to cry, from holding in the breath, and from contracting the muscles of the neck violently when the head is confined by assistants,—all of which circumstances prove, to say the least, exceedingly embarrassing to the operator. On examining the records of all the cases to which I can gain access, I have been surprised to find that no surgeon has heretofore attempted to perform the same operation on a child. The youngest patient on record is mentioned in one of Dr. Mott's cases, in which the young lady was nineteen years old.—*Amer. Med. Rev.*

Suture of the Palate. By Nathan Smith, M. D. Prof. of Surgery, in Yale College.—The effect of suture of the lip in partially closing the fissure of the palate, when this deformity exists together with hare-lip, some time since suggested to me the propriety of applying the suture, when the operation is performed at an early period, directly to the palate itself

Every one must have observed that, when in early infancy the suture of the lip is properly made, the gentle pressure which the lip, then more straight than natural, exerts upon the cleft portions of the jaw, has a tendency gradually to approximate them, for at this time the bones of the face being yet in part cartilaginous, readily yield to little force.

Something more than a year since, in the state of Maine, a case occurred to me in which I judged it proper to attempt the more perfect closure of the palate by sutures applied directly to that part itself. I reflected that the parts must at that period (infancy) be so soft as to offer but little resistance to the needle, and so yielding as to be brought, with little force, in close contact with each other. It appeared to me, also, that the closure of the lip would be much more complete by thus bringing the sides of the jaw into their natural situation with respect to each other.

The operation was accomplished with less difficulty than I had anticipated. The margins of the palate were pared with the knife, and a ligature of suitable size, with a needle very much curved, was carried through on one side, a sufficient distance from the margin, and brought back through the opposite. Two threads were employed in this manner, and the parts

were brought into contact with very little difficulty. I have not since seen the patient, but have reason to believe that the operation was perfectly effectual.

I have since seen an account of a similar operation performed by an English surgeon.—*Ibid.*

QUARTERLY BIBLIOGRAPHICAL NOTICES.

1. *The Chemist and Meteorological Journal, No.* 1. Edited by JOHN R. COTTING. Published weekly. Amherst, Massachusetts.

This work is conducted upon the plan of a similar publication in Great Britain. It promises to be a useful publication, and we wish it success.

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2. *A Letter to the Hon.* ISAAC PARKER, *Chief Justice of the Supreme Court of the State of Massachusetts, containing remarks on the Dislocation of the Hip Joint, occasioned by the publication of a trial, which took place at Machias, in the State of Maine, June,* 1824. By JOHN C. WARREN, M. D., Professor of Anatomy and Surgery in Harvard University, &c. with an appendix of documents from the trial necessary to illustrate the history of the case. Cambridge. 8vo. pp. 142. 1826.

We shall in a future number give some account of the contents of this letter.

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3. *A Manual of Chemistry, on the basis of Professor Brande's; containing the principal facts of the Science arranged in the order in which they are discussed and illustrated in the lectures at Harvard University, N. E.* Compiled from the works of Brande, Henry, Berzelius, Thomson and others. Designed as a text book for the use of students, and persons attending lectures on Chemistry. By JOHN W. WEBSTER, M. D. Lecturer on Chemistry to Harvard University. Boston, 8vo. pp. 603. 1826.

Of the general plan of this compilation some idea may be formed from the following statement, which we take from the author's advertisement. —"The basis of this work is the excellent Manual of Professor Brande; it contains all the strictly chemical part of that work, with numerous additions from the best writers on Chemistry. All that part of Professor Brande's work which relates to Mineralogy and Geology has been omitted, its place being supplied by more ample directions for the practical student. In most cases the extracts from other writers have been given without any alteration, except where it was demanded in order to give a greater degree of uniformity to the phraseology."—"The plates will be found to contain nearly all the figures contained in the volumes of Brande and Henry, with the addition of several from other sources, the whole presenting a more complete chemical apparatus than is to be found in any chemical work, with the exception perhaps of Thenard's *Traité*."

4. *Journal of the Philadelphia College of Pharmacy. Nos.* 1. *and* 2., *for December* 1825, *and May* 1826. Philadelphia, pp. 64. 1826.

See Review.

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5. *Annals of the Lyceum of Natural History of New-York.* Vol. 2. Nos. 1, 2, 3, 8vo. pp 100. New-York, 1826.

These numbers are exclusively devoted to a Synopsis of the Birds of the United States, by Charles Lucian Bonaparte.

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6. *An Account of the Salt Springs at Salina, in Onondaga County, State of New-York; with a chemical examination of the water, and of several varieties of salt manufactured at Salina and Syracuse.* By Lewis C. Beck, M. D. Professor of Botany, Mineralogy, &c. in the Rensselaer School, 8vo. pp. 36. New-York, 1826.

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7. *Journal de Medecine de Quebec.—The Quebec Medical Journal.* Edited and published by Xavier Tessier, Quebec, Canada. 1826. Nos. 1, 2, 3.

In exchange. This is a quarterly Journal, the publication of which was commenced in January last. We believe it is the first undertaking of the kind which has been attempted in the Canadas, and as such is attended with peculiar difficulties. We sincerely hope, however, that the editor will meet with encouragement sufficient to proceed in his honourable enterprise. In looking over the hospital reports contained in this Journal, we were forcibly struck with the fact that scarcely any cases of pulmonary consumption are recorded, and we afterwards met with the following remarks on the subject, which we think worthy of being copied. They are contained in a review by the editor, of Dr. Crighton's book on tar vapour in consumption.

"We have certainly not as much to complain of the ravages of consumption in this country, as in the midst of those populous cities of Europe, where luxury and plenty have given rise to the devolopement of numberless disorders heretofore unknown. It is a painful reflection when we come to consider that the more nations have advanced towards a perfect state of civilization, the more also they have to deplore the progress of diseases keeping pace with what is now called refined habits and manners. Fortunately for the Canadian people, their climate, and the absence of all those insidious maxims of the age, will long prove an insuperable barrier to the introduction of numerous calamities which have already become the appanage of their continental neighbours.

"We do not mean to advance that our countrymen are entirely free from consumption; indeed we must confess that its frequency in the cities of Quebec and Montreal is an awful testimony of the truth of our assertion, and more particularly when we compare the vast disproportion of diseases which already exists between the population of our cities, and that which is found disseminated over our extensive territory. A con-

sumptive patient, (un poumonique) as they call it, is a case seldom met with in the country, where the population is ten to one in the cities, whilst in the latter it has become already so prevalent, that we can assert with some degree of accuracy, that very near one-fifth fall victims to that dreadful scourge; and it is that consideration which has convinced us of the necessity of inquiring more minutely into the causes which give rise to its propagation, and into the safest means of preventing its introduction. This we shall make the subject of a separate article in some future number."—No. 2. p. 73.

We hope the editor will not fail to redeem the pledge here given. No subject can be more worthy of his best exertions.

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8. *The Ohio Medical Repository.* Cincinnati, August, 1826. Edited by Guy W. Wright, M. D.

This is a well-conducted medical paper, published twice a month, upon the plan of the Boston Medical Intelligencer. We have as yet only received No. II. In it we perceive that Dr. Locke, of Cincinnati, has commenced a series of papers, the object of which is "a description of the western medical plants." We hope he may be induced to continue his labours on this highly interesting subject.

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9. *Medical and Physical Memoirs.* By Charles Caldwell, M. D. Professor of the Institutes of Medicine in the Transylvania University. 8vo. pp. 224. Lexington, 1826. See Review.

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10. *A Treatise of the Maieria Medica and Therapeutics.* By John Eberle, M. D., &c. In two vols. 8vo. second edition, with corrections. Philadelphia, 1825.

The first edition of this work was published in 1822. The appearance of a second edition in so short a period, is a sufficient evidence of the favor with which it has been received by the medical public. For accuracy of statement and extent of information we look upon it as the best work that has yet appeared in this country on the subject of which it treats.

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11. *Journal de Pharmacie et des Science, accessoires et Bulletin des Travaux de la Societe de pharmacie de Paris.* For January, February, March, April, and May, 1826.

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12. *Elements of Phrenology.* By George Combe, late President of the Phrenological Society. First American Edition, with notes, from the second Edinburgh. Improved and enlarged, with two engravings, 12mo. pp. 221. Philadelphia, 1826.

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13. *A Treatise on Diet; with a view to establish on practical grounds, a system of rules for the prevention and cure of the diseases incident to a disordered state of the digestive organs.* By J. A. Paris, M. D. 8vo. pp. 210. Philadelphia, 1826. Reprinted from the London edition.

14. ***A Manual of Chemistry; containing the principal facts of the Science, arranged in the order in which they are discussed and illustrated in the Lectures at the Royal Institution of Great Britain.*** By WILLIAM THOMAS BRANDE. The second American from the 2nd London Edition. Three vols. in one. To which are added notes and emendations by WM. JAMES M'NEVIN, M. D. 8vo. pp. 638. New-York, 1826.

We have already expressed our opinion very freely in relation to this American edition of Mr. Brande's Manual, at p. 478 of this number, to which we refer.

INTELLIGENCE.

We are happy to state, that at the anniversary commencement in the University of Pennsylvania, the honorary degree of Doctor of Medicine was conferred on Dr. PETER WENDELL, of Albany, one of the Regents of the University of the state of New-York.

New-York Institution for correcting Impediments of Speech.—An Institution bearing this title, has now been in successful operation in this city for several months, under the superintendence of Mrs. Leigh and a highly respectable member of the medical profession, Dr. C. C. Yates. Having had occasion to be eye-witnesses of several of the cures which have been effected, and having been made acquainted with the theory of Mrs. Leigh, in relation to the cause of stammering and other impediments of speech, we feel it to be a duty which we owe to the public, to express the very high opinion which we entertain of the whole system of instruction adopted in this Institution. The theory of Mrs. Leigh concerning the cause of stammering is, we believe, perfectly original, and the astonishing success which has attended its practical application, proves it to be no less true than original. Most sincerely do we hope that the merit of so important a discovery may not go unrewarded.

New-Hampshire Medical Institution.—This highly respectable Institution constitutes the medical department of Dartmouth College, and continues in a prosperous condition. Its professors are among the most learned and talented men in our country; and though it loses much in the transfer of the professor of Chemistry to New-York, yet we sincerely hope the Institution may sustain itself with undiminished success. The session commenced in September, and we learn that upwards of one hundred students are at present attending the lectures. The officers of the Institution are the following:

Rev. Bennet Tyler, President.

Reuben D. Mussey, M.D. Professor of Anatomy, Surgery, &c.

Daniel Oliver, M.D. Professor of the Theory and Practice of Physic.

James F. Dana, M.D. Professor of Chemistry, Pharmacy, &c.

Josiah Crosby and *Peter Tuttle,* Delegates from the N. H. Medical Society for medical examination.

Montreal Medical School.—We are much gratified to learn the improvement that medicine is making in the Canadas. In another part of our number we have mentioned the commencement of a Medical Journal at Quebec, and we have now to notice the establishment of a Medical School at Montreal. From private information, we learn that it is likely to receive, very soon, a regular charter from the government. The professorships are the following:

Chemistry, Pharmacy, and Materia Medica—*A. F. Holmes, M.D.*

Practice and Theory of Medicine—*W. Caldwell, M.D.*

Anatomy, Physiology, and Surgery—*J. Stevenson, M.D.*

Midwifery, and Diseases of Women and Children—*W. Robertson, Esq.*

Attendance at the Montreal General Hospital, every day at noon.

N. B. Tickets of attendance at the Institution and the Montreal General Hospital, are received at Edinburgh and Paris.

Medical Society of the County of New-York.—At the last anniversary meeting, held in July 1826, the following gentlemen were elected officers for the ensuing year:

Dr. JOHN ONDERDONK, President.

Dr. THOMAS COCK, Vice President.

Dr. JOHN S. CONGER, Treasurer.

Dr. JEREMIAH VAN RENSSELAER, Corresponding Secretary.

*Dr. M. SEARS, Recording Secretary.

Dr. JAMES M. PENDLETON, Dr. J. K. RODGERS, Dr. J. C. CHEESEMAN, Dr. J. B. BECK, and Dr. F. U. JOHNSON, Censors.

Dr. JOHN STEARNS, Dr. JOSEPH HANSON, Dr. A. HAMERSLEY, Dr. J. B. BECK, Dr. DANIEL L. M. PEIXOTTO, Dr. WM. F. SEAMAN, Dr. I. M. PENDLETON, Dr. ISAAC WOOD, Dr. W. HIBBARD, and Dr. W. MURRAY, Lecturers.

* Since resigned, and Dr. DANIEL L. M. PEIXOTTO elected in his stead.

State Medical License.—Candidates wishing to obtain licenses to practice Medicine and Surgery, are informed, that the Censors of the State Medical Society for the Southern District will hold their examinations in the city of New-York. They are requested to apply to either of the censors.

FELIX PASCALIS, M.D.
CHARLES DRAKE, M.D. } Censors.
JOHN B. BECK, M.D.

UNIVERSITY OF THE STATE OF NEW-YORK.

College of Physicians and Surgeons of the Western District at Fairfield, Herkimer County.—The lectures at this institution will commence on the first Tuesday in October next, and continue during the space of sixteen weeks.

JOSEPH WHITE, M. D.—On Surgery.
WESTEL WILLOUGHBY, M. D.—On Obstetrics.
JAMES HADLEY, M. D.—On Chemistry and Materia Medica.
T. ROMEYN BECK, M. D.—On the Practice of Physic and Medical Jurisprudence.
JAMES M'NAUGHTON, M. D.—On Anatomy and Physiology.

Fee for the whole course of lectures $54. Board may be had from $1 25 to 1 75 per week.

By order, JAMES HADLEY, Registrar.

UNIVERSITY OF THE STATE OF NEW-YORK.

COLLEGE OF PHYSICIANS AND SURGEONS OF N. Y.

New-York, August 2d, 1826.

The Trustees have the satisfaction to announce that the Honorable the Regents of the University have filled the vacant Professorships in this Institution, and that the College will be opened on the first Monday of November next, by an address from the President. The several professors will then commence their respective courses of Lectures in the following order, viz.

JOHN AUGUSTINE SMITH, M. D., on Anatomy and Physiology.
ALEXANDER H. STEVENS, M. D., on the Principles and Practice of Surgery.
JAMES F. DANA, M. D., on Chemistry.
JOSEPH M. SMITH, M. D., on the Theory and Practice of Physic and Clinical Medicine.
EDWARD DELAFIELD, M. D., on Obstetricks and the Diseases of Women and Children.
JOHN B. BECK, M. D., on Materia Medica and Botany.

The Trustees are assured that the several courses of instruction will be full and complete, and that the means of illustration will be ample.

The students who have already attended Lectures in this Institution, are notified that the changes which have taken place in the College will not deprive them of any privileges or facilities heretofore enjoyed.

In conformity with the ordinances of the Honorable the Regents of the University, and the laws of the State of New-York, every student is required to attend two full courses of all the Lectures delivered in the College, before he can be admitted as a candidate for the doctorate; unless said student shall have attended Lectures in this College prior to the session of 1822—3, or shall have attended one entire course of Lectures delivered in some incorporated Medical School or University.

The candidate must also have studied three years with some respectable practitioner of medicine, and have arrived at the age of twenty-one years.

In announcing the new organization of the College and its first session in November next, the Board of Trustees believe that the high expectations of the profession and the public will be fully realized, and sustained by the distinguished reputation and talents of the several gentlemen who have been appointed to the respective Professorships.

By order of the Board of Trustees,

JOHN WATTS, Jun. M. D. President.

NICOLL H. DERING, M. D. Registrar.

In addition to the foregoing circular we are happy to state, that the Students of Medicine, attending the Lectures of the College of Physicians and Surgeons will be entitled to receive free tickets of attendance upon the practice and operations of the New-York Eye Infirmary. For the benefit of students the surgeons of the Infirmary, Drs. J. Kearny Rodgers and Delafield are in the habit of making practical observations upon the cases which present themselves.

We also have it in our power to state that the Anatomical Museum of the College is at present the most extensive that has ever existed in this city. Besides the former entire Museum of the College, and that of Dr. Post, it embraces the valuable private collections of Dr. Stevens, Dr. J. Kearny Rodgers, Dr. I. Wood, Dr. Cheeseman, and Dr. Delafield, all of whom have liberally deposited them in the College for the use of the Students.

NEW-YORK EYE INFIRMARY.

Doctor Delafield will commence his Lectures on the Diseases of the Eye during the first week in November next. The Lectures will be illustrated by cases at the New-York Eye Infirmary. The holders of the Midwifery ticket in the College of Physicans and Surgeons, will be entitled to attend these Lectures without additional expense.

Erratum.—At page 483, line 1, for *once*, read *one*.